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BEACH CHANGES AT LONG BEACH ISLAND, NEW JERSEY, 1962-73.(U)
OCT 80 M C MILLER, D G AUBREY, J KARPEN DACW72-79-C-0020
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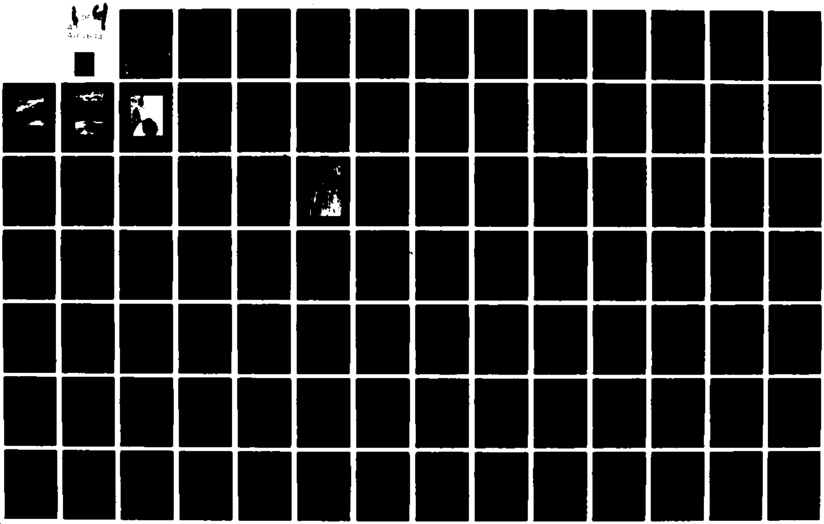

LEVEL II (12)

MR 80-9

AD A101844

Beach Changes at Long Beach Island, New Jersey, 1962-73

by

Martin C. Miller, David G. Aubrey, and Joseph Karpen

MISCELLANEOUS REPORT NO. 80-9

OCTOBER 1980

U.S. ARMY, CORPS OF ENGINEERS
COASTAL ENGINEERING RESEARCH CENTER

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REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER MR-80-9	2. GOVT ACCESSION NO. AD-A101 844	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) BEACH CHANGES AT LONG BEACH ISLAND, NEW JERSEY, 1962-73.		5. TYPE OF REPORT & PERIOD COVERED Miscellaneous Report
		6. PERFORMING ORG. REPORT NUMBER
7. AUTHOR(s) Martin C. Miller David G. Aubrey Joseph Karpen		8. CONTRACT OR GRANT NUMBER(s) DACW72-79-C-0020
9. PERFORMING ORGANIZATION NAME AND ADDRESS Science Applications, Inc. 4900 Water's Edge Drive, Suite 255 Raleigh, North Carolina 27606		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS D31194
11. CONTROLLING OFFICE NAME AND ADDRESS Department of the Army Coastal Engineering Research Center (CERRE-CS) Kingman Building, Fort Belvoir, Virginia 22060		12. REPORT DATE October 1980
		13. NUMBER OF PAGES 289
14. MONITORING AGENCY NAME & ADDRESS(if different from Controlling Office)		15. SECURITY CLASS. (of this report) UNCLASSIFIED
		15a. DECLASSIFICATION/DOWNGRADING SCHEDULE

16. DISTRIBUTION STATEMENT (of this Report)

17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)

Approved for public release; distribution unlimited.

18. SUPPLEMENTARY NOTES

19. KEY WORDS (Continue on reverse side if necessary and identify by block number)

Beach changes	Groins
Beach erosion control	Long Beach Island, N.J.
Beach profile surveys	Storm erosion

20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

Beach profile line data collected as part of the Beach Evaluation Program (BEP) were examined from 32 profile sites along Long Beach Island, New Jersey. A total of 2,158 profile line surveys were examined, using empirical eigenfunction analysis and other measures of beach variability. Most profile lines have shown an accretionary trend since 1962 with rates between 2.3 and 0.24 meter per year in spite of erosion estimates due to sea level rise on the order of 0.68 meter per year. A great deal of variability in profile line
(continued)

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change takes place along the beach, increasing from north to south, due to the location of profile lines relative to structures and offshore linear shoals. Detailed closely spaced profile lines taken over a year in a groin field near the north end of the island indicate littoral transport directions shift from north to south. Evidence of a littoral transport node near the north end of the groin field has been found. Net transport south of the node is toward the south, but the rate could not be established due to lack of adequate wave data. Profile line variability within groin cells shows that single profile lines are not sufficient to determine the net change within a cell. The design of future beach monitoring studies should consider coastal structures, offshore bathymetry, the method of analysis, and the scales of processes under study. A coastal storm in November 1968 moved the MSL back as much as 22 meters; however, the beach recovered without artificial measures. The offshore bathymetry shows a series of shoreface-connected linear shoals at several locations along the island. Limited data show that these have remained stable and that most beach variability takes place in water shallower than 3 meters.

PREFACE

This report is one of a series describing the results of the U.S. Army Coastal Engineering Research Center (CERC) Beach Evaluation Program. One aspect of the program, and the subject of this report, is to provide basic engineering information on changes in the volume of sand on beaches above mean sea level, and on changes in shoreline position, as obtained from long-term beach survey projects. The 11-year study on Long Beach Island, New Jersey, was begun shortly after the catastrophic storm of 5 to 9 March 1962. The work was carried out under the CERC beach behavior and restoration program.

The report was prepared by Martin C. Miller (principal investigator), Science Applications, Inc. (SAI), Raleigh, North Carolina; David G. Aubrey, Woods Hole Oceanographic Institution, Massachusetts; and Joseph Karpen, SAI, under CERC contract No. DACW72-79-C-0020. Beach profile surveys were performed by the U.S. Army Engineer District, Philadelphia, under the supervision of H. Spies, except for a period in 1963 and 1964 when the work was contracted to Mauzy, Morrow and Associates of Lakewood, New Jersey. Visual wave data were contributed by P. Kief and H. Wilson. M.V. Fleming, T.J. Lawler, J. Buchanan, and B. Sims developed the CERC computer programs used for editing, analyzing, and displaying the beach profile data. Eigenfunction analysis programs were written by D. Aubrey. J.L. Miller, J.A. Tarnowski, and K.P. Zirkle assisted in data reduction. The authors acknowledge and appreciate the helpful review comments from G. Ashley, W. Birkemeier, A. DeWall, E. Hawley, B. LeMehaute, and C.L. Vincent.

A.E. DeWall was the contract monitor, under the general supervision of R.M. Sorensen, Chief, Coastal Processes and Structures Branch, CERC.

Comments on this publication are invited.

Approved for publication in accordance with Public Law 166, 79th Congress, approved 31 July 1945, as supplemented by Public Law 1972, 88th Congress, approved 7 November 1963.

TED E. BISHOP
Colonel, Corps of Engineers
Commander and Director

CONTENTS

TABLES

FIGURES

FIGURES--Continued

CONVERSION FACTORS, U.S. CUSTOMARY TO METRIC (SI) UNITS OF MEASUREMENT

U.S. customary units of measurement used in this report can be converted to metric (SI) units as follows:

Multiply	by	To obtain
inches	25.4	millimeters
	2.54	centimeters
square inches	6.452	square centimeters
cubic inches	16.39	cubic centimeters
feet	30.48	centimeters
	0.3048	meters
square feet	0.0929	square meters
cubic feet	0.0283	cubic meters
yards	0.9144	meters
square yards	0.836	square meters
cubic yards	0.7646	cubic meters
miles	1.6093	kilometers
square miles	259.0	hectares
knots	1.852	kilometers per hour
acres	0.4047	hectares
foot-pounds	1.3558	newton meters
millibars	1.0197×10^{-3}	kilograms per square centimeter
ounces	28.35	grams
pounds	453.6	grams
	0.4536	kilograms
ton, long	1.0160	metric tons
ton, short	0.9072	metric tons
degrees (angle)	0.01745	radians
Fahrenheit degrees	5/9	Celsius degrees or Kelvins[1]

[1] To obtain Celsius (C) temperature readings from Fahrenheit (F) readings, use formula: $C = (5/9)(F - 32)$.

To obtain Kelvin (K) readings, use formula: $K = (5/9)(F - 32) + 273.15$.

BEACH CHANGES AT LONG BEACH ISLAND, NEW JERSEY, 1962-73

by
Martin C. Miller, David G. Aubrey, and Joseph Karpen

I. INTRODUCTION

Beach profile data from 32 profile stations along the oceanside of Long Beach Island, New Jersey, from Barnegat Inlet at the north end of the island to the Brigantine National Wildlife Refuge, about 4 kilometers north of Beach Haven Inlet, were collected from 1962 to 1973 by the U.S. Army Engineer District, Philadelphia, as part of the U.S. Army Coastal Engineering Research Center (CERC) Beach Evaluation Program (BEP) (formerly known as the Pilot Program for Improving Coastal Storm Warnings or the Storm Warning Program). The BEP was initiated after the Great East Coast Storm of March 1962 to observe variations on typical beaches in response to waves and tides of specific intensity and duration. Twelve beaches in the region hardest hit by that storm (Massachusetts to North Carolina) are under study in this program. The movement and the devastation of the March 1962 storm are described in U.S. Congress (1962), U.S. Army Engineer Division, North Atlantic (1963) and Bretschneider (1964). Other important applications of the BEP include use of the data in generating a predictive model of beach erosion (Galvin, 1969) and in providing representative values of basic engineering information for the planning and design of protective structures or remedial measures for stabilizing and maintaining beaches (Everts, 1973).

This report presents an analysis of the beach profile data collected at Long Beach Island, documents the locations of the profile lines, and evaluates the relationship of changes in beach elevation, sand volume, and shoreline position to changes in waves, water level, sediment size and supply, storm events, and coastal structures. The analysis includes a review of previous studies in the area to determine the relevant long-term trends in waves, winds, and tides.

Variability in the shape of the beach profile was analyzed using the empirical eigenfunction technique as well as by other standard methods performed at CERC. Changes were evaluated on three time scales: (a) short-term changes caused by individual storms or events occurring between surveys; (b) seasonal changes observed over the typical 3-month season; and (c) long-term changes that occur yearly. Spatial variability in both the shore-parallel and shore-normal directions was analyzed to determine the effects of coastal structures and systematic changes caused by variable wave refraction and other factors. Particular emphasis has been given to the effects of storms and to the evaluation of the closely spaced profile data obtained within the vicinity of a selected groin field.

II. THE STUDY AREA

1. Geography and Geomorphology.

Long Beach Island (Fig. 1) is a barrier island located along the coast of southern New Jersey. It separates the Atlantic Ocean and three shallow bays and associated salt marsh areas, each of which extends along approximately equal

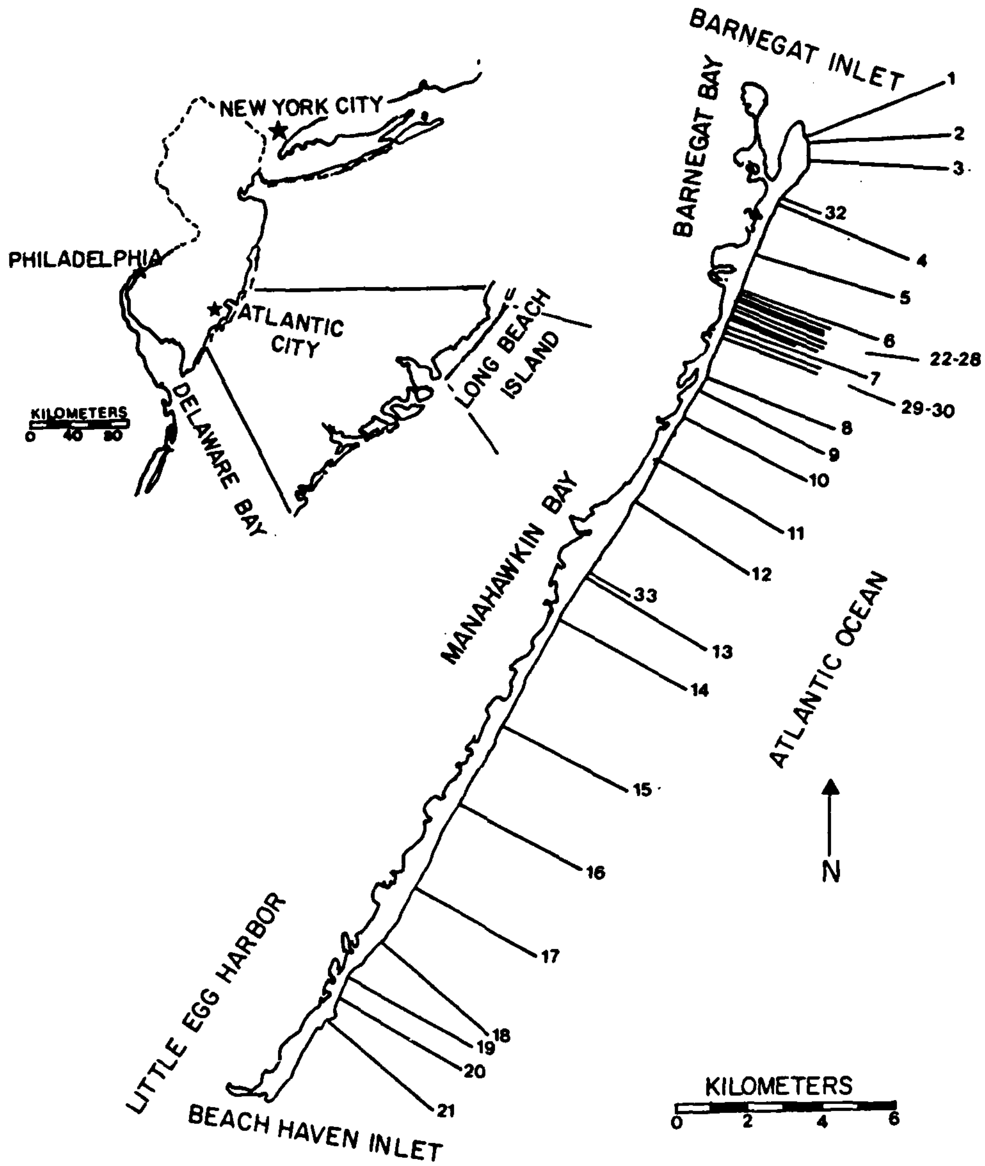


Figure 1. Profile line locations at Long Beach Island, New Jersey (after DeWall, Pritchett, and Galvin, 1977; Everts and Czerniak, 1977).

thirds on the island's western side. The bays, from north to south, are Barnegat Bay, Manhawkin Bay, and Little Egg Harbor. No major rivers contribute to the bay waters. These are connected to the ocean through Barnegat Inlet at the north end and Beach Haven Inlet at the south end. Both inlets are areas of active sediment transport. The island has an east-southeast exposure of 32 kilometers of nearly straight sand beach consisting of quartz sand with median diameter of 0.35 millimeter (Ramsey and Galvin, 1977). Tides are semidiurnal with the normal range varying from 0.88 to 1.52 meters at neap and spring tides, respectively. Tide data from the recording station at Atlantic City have been nearly continuous since 1911. An analysis of water levels at Atlantic City from 1912 to 1953 indicates a rise in sea level at an average rate of 42.7 centimeters per 100 years. The trend appears to continue during the period 1954-65 (U.S. Army Engineer District, Philadelphia, 1974). The beach area from the Barnegat lighthouse to the Brigantine National Wildlife Refuge is heavily structured with 110 groins, 83 of which have been built or rebuilt during the period 1962-73 (Everts and Czerniak, 1977). "Critical" erosion is said to exist along this stretch of beach (U.S. Army Engineer District, Philadelphia, 1974). The net sediment transport is toward the south (Caldwell, 1966). The island is narrow and of generally low elevation with a nearly continuous sand dune (5 to 8 meters above MLW) extending along the ocean front. Most development has taken place landward of the dune, but some houses have been built directly on the dune crest. Plantings of American beachgrass, drift fences, and limited boardwalk beach access sites have been established to help preserve the remaining undeveloped dunes (Fig. 2). Though the beaches and dunes are active, the basic shape has varied little over the years from 1955 to 1965 (U.S. Army Engineer District, Philadelphia, 1974). The dune slope is about 1:5 while the beach berm, from the base of the dune to MLW, slopes about 1:15. The foreshore slope increases somewhat during the winter to 1:12 (Birkemeier, 1979). The only access to the mainland is provided by U.S. Highway 72, along a 10-kilometer causeway. Because it is relatively low lying and heavily populated, Long Beach Island may suffer extensive physical and economic damage during storms.

2. Littoral Processes.

The New Jersey barrier beaches have been periodically surveyed since 1840. Analyses of the beach profile data as well as measurements of nearshore bathymetry and contours of the 1.83-, 3.66-, and 5.49-meter isobaths are presented in Beach Erosion Board (1958) and U.S. Army Engineer District, Philadelphia (1974) along with a summary of the general location of the high water shoreline from 1840 to 1965. The studies indicate that the beaches at Long Beach Island have undergone periods of erosion and accretion that varied in magnitude and conclude that recession has been the general trend along the entire island. Barnegat Inlet, at the northern end of the island, is stabilized by a pair of converging stone jetties which were in various stages of construction from 1926 to 1942 (Fig. 3). Though sediment transport is still extremely active in the inlet, the jetties have stopped the southerly migration of this end of the island, which averaged 10 meters per year during the period 1840 to 1936. The history of jetty construction and the problems associated with inlet stabilization have been reviewed by Caccese and Spies (1977). The stone jetties are the site of a large ebb tidal delta asymmetric toward the south. A large sand wedge, which has accumulated along the north jetty at the south end of Island Beach State Park, provides evidence of net southerly transport. Waves refracting around the ebb tidal delta cause a local area of northerly transport under most conditions immediately south of the south jetty. Winds from the east and southeast

a. View looking south from profile line 1, showing extensive sand fencing, groins, and development.

b. View south from profile line 5, showing development on the dunes and the line of wave drifted material at the base of the dune scarp.

Figure 2. Views of the different techniques used to preserve the undeveloped dunes on Long Beach Island.

c. Typical beach access through dunes at profile line 15. Such locations were washover sites during the March 1962 storm.

d. View north from profile line 19, showing low dunes in contrast to the northern end of the island.

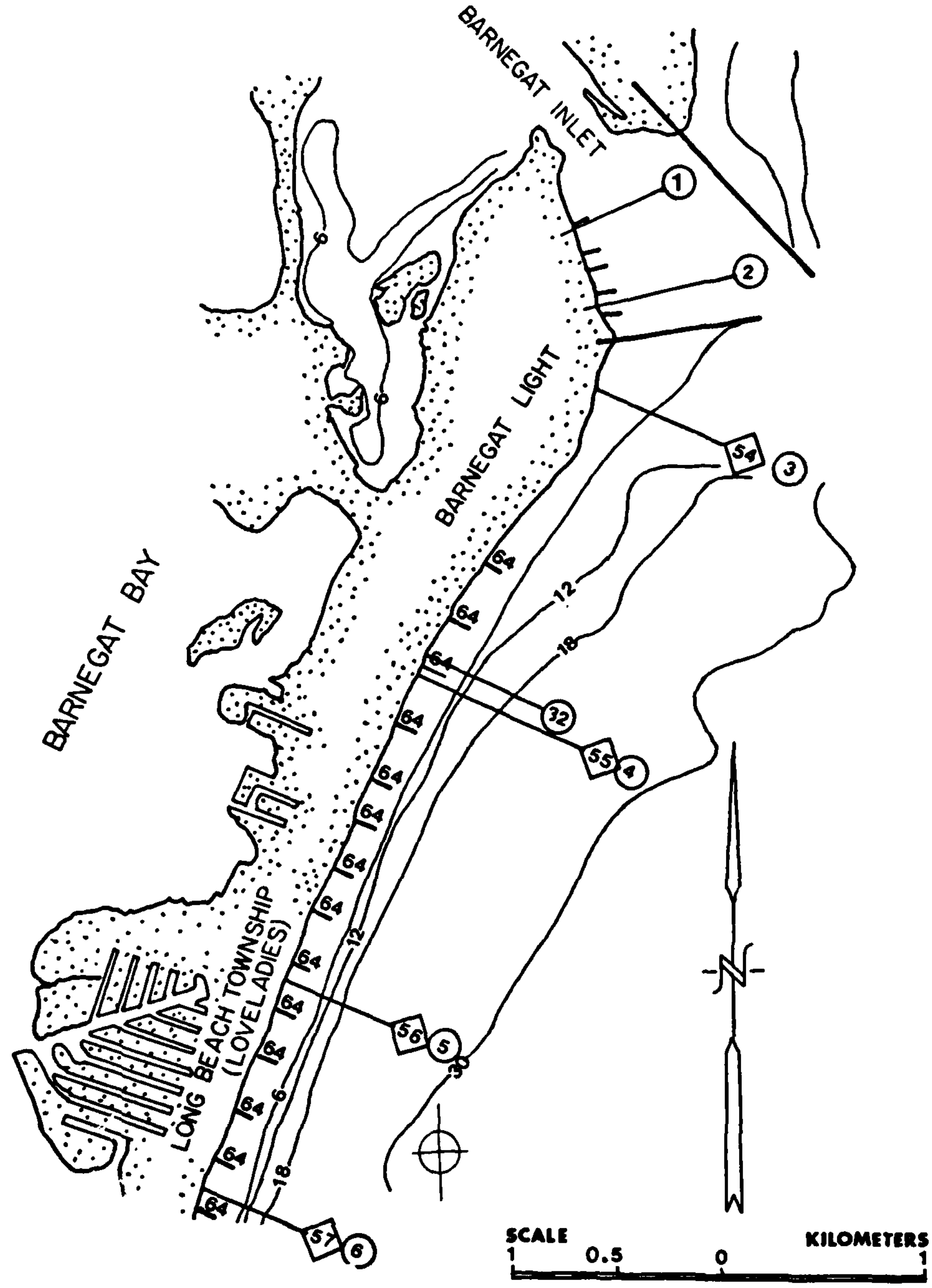
Figure 2. Views of the different techniques used to preserve the undeveloped dunes on Long Beach Island.--Continued

Figure 3. Air photo of Barnegat Inlet and converging jetties. Note the confused wave refraction over the shoal south of the south jetty.

cause northerly transport on both sides of the inlet. A nodal zone, north of which transport is predominantly northerly and south of which it is southerly, has been postulated to exist north of Barnegat Inlet based on the relative orientations of the shoreline and the prevailing direction of wave approach (U.S. Army Engineer District, Philadelphia, 1974). Beach Haven Inlet, at the southern end of the island, is unstructured and remains extremely active with shifting tidal channels and bar formations occasionally blocking the inlet completely (U.S. Army Engineer District, Philadelphia, 1974). The shoreface morphology of the southern end of Long Beach Island was studied by Goldsmith, Farrell, and Goldsmith (1974) in an effort to document the dynamic nature of the shoreface system. Beach profiles collected over a 1-year period were used to calculate changes in sand volume per unit length of beach. The authors concluded that, despite large biweekly variations, there was a lack of total net volumetric change at many of the measured profiles. In many cases, the biweekly fluctuations exceeded the net annual changes over the study period. They also concluded that, unlike most west coast beaches, the Long Beach Island profiles exhibited no seasonal cycle of erosion and recovery. There were, in fact, cases in which net volumetric change occurred in opposite directions at adjacent profiles. Other studies summarizing beach changes, inlet processes over various time scales, as well as wave and climate conditions during the BEP study include Plusquellac (1966), Charlesworth (1968), Darling (1968), Halsey (1968), and Dames and Moore (1973, 1974). Bretschneider (1964) provided a detailed description of processes occurring along the island during the March 1962 storm. The net sand transport along the beaches of 115,000 cubic meters per year toward the south was estimated from dredging records of Barnegat Inlet (Beach Erosion Board, 1958; U.S. Army, Corps of Engineers, Coastal Engineering Research Center, 1977). Changes to the strand of beaches between the two inlets during the 1963 to 1973 study period have been the subject of two additional investigations--one dealing with the short-term alterations caused by a specific storm (DeWall, Pritchett and Galvin, 1977), the other an evaluation of some long-term changes (Everts and Czerniak, 1977). A major storm event affecting the beaches after the termination of the BEP measurement program was reported in Birkemeier (1979).

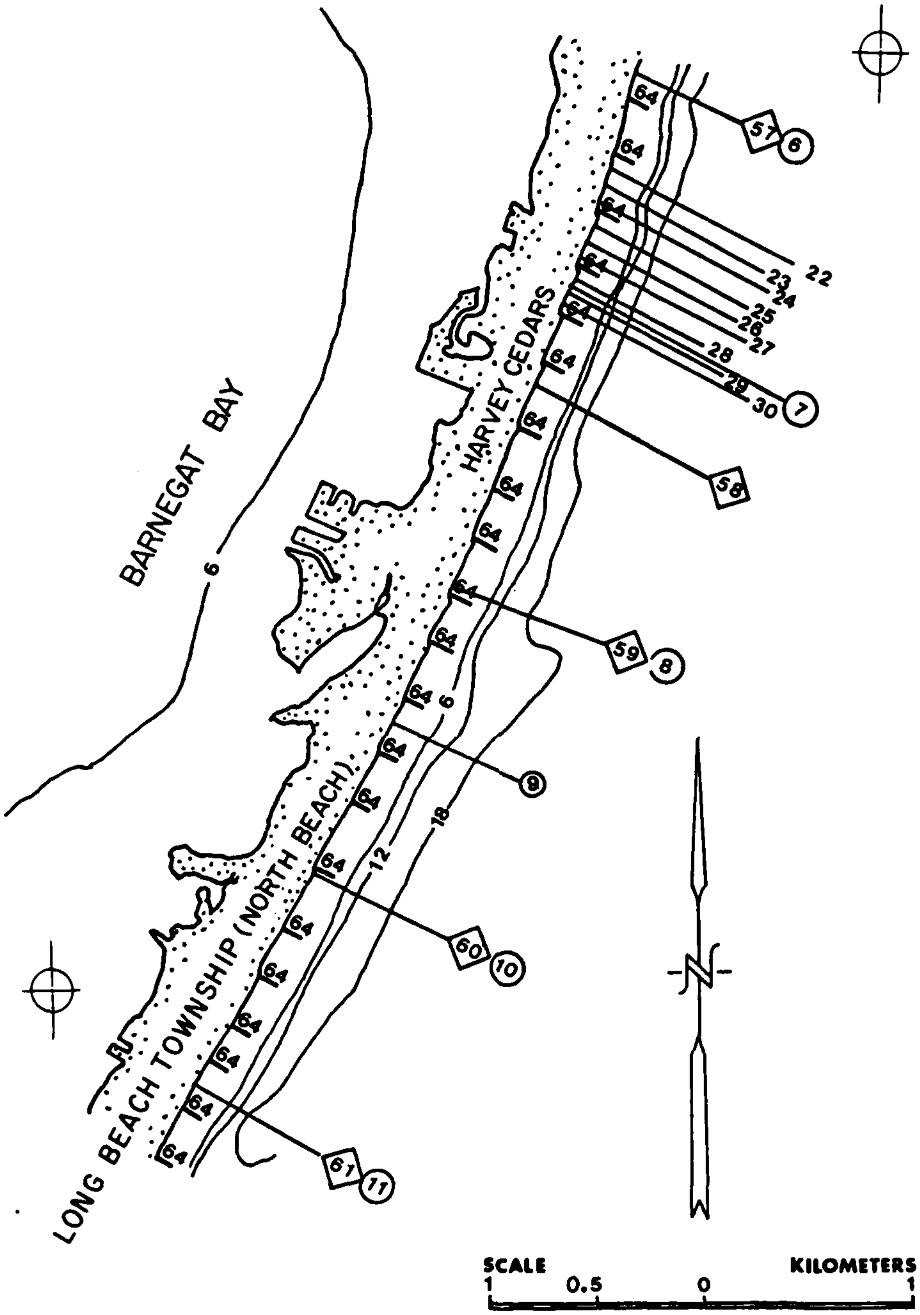
3. Offshore Bathymetry.

Fields of shoaling features are present on the Inner Continental Shelf regions from Long Island to Florida (Duane, et al., 1972). These shoals are linear or arcuate, isolated, or associated with other features such as inlets. Three shoreface-connected linear shoals are easily identified along Long Beach Island from soundings taken in 1937, 1955, 1963, and 1965. Other, less well-developed features are also present (Fig. 4). The shape and position of the shoals appear stable. The features off of the island are typical of similar shoals near Fenwick Island, Maryland, and other barrier island localities farther south. The Long Beach Island shoals open toward the north, making an angle between 20° and 30° with the shoreline. Peahala Ridge, the best developed of the three, is attached to the shore at about Beach Haven and extends at an angle of 20° to the shoreline for a distance of 5.6 kilometers measured along the axis to the 10-meter contour. The mean axis slope is 1:600 and is fairly constant while the side slopes are 1:100. The method of formation of these ridges is presently undetermined. The relatively constant angle to the shoreline in spite of the shoreline orientation indicates they are generated by nearshore hydrodynamic processes. Subbottom seismic studies and test borings in some of the ridges show the shoreface-connected shoals are



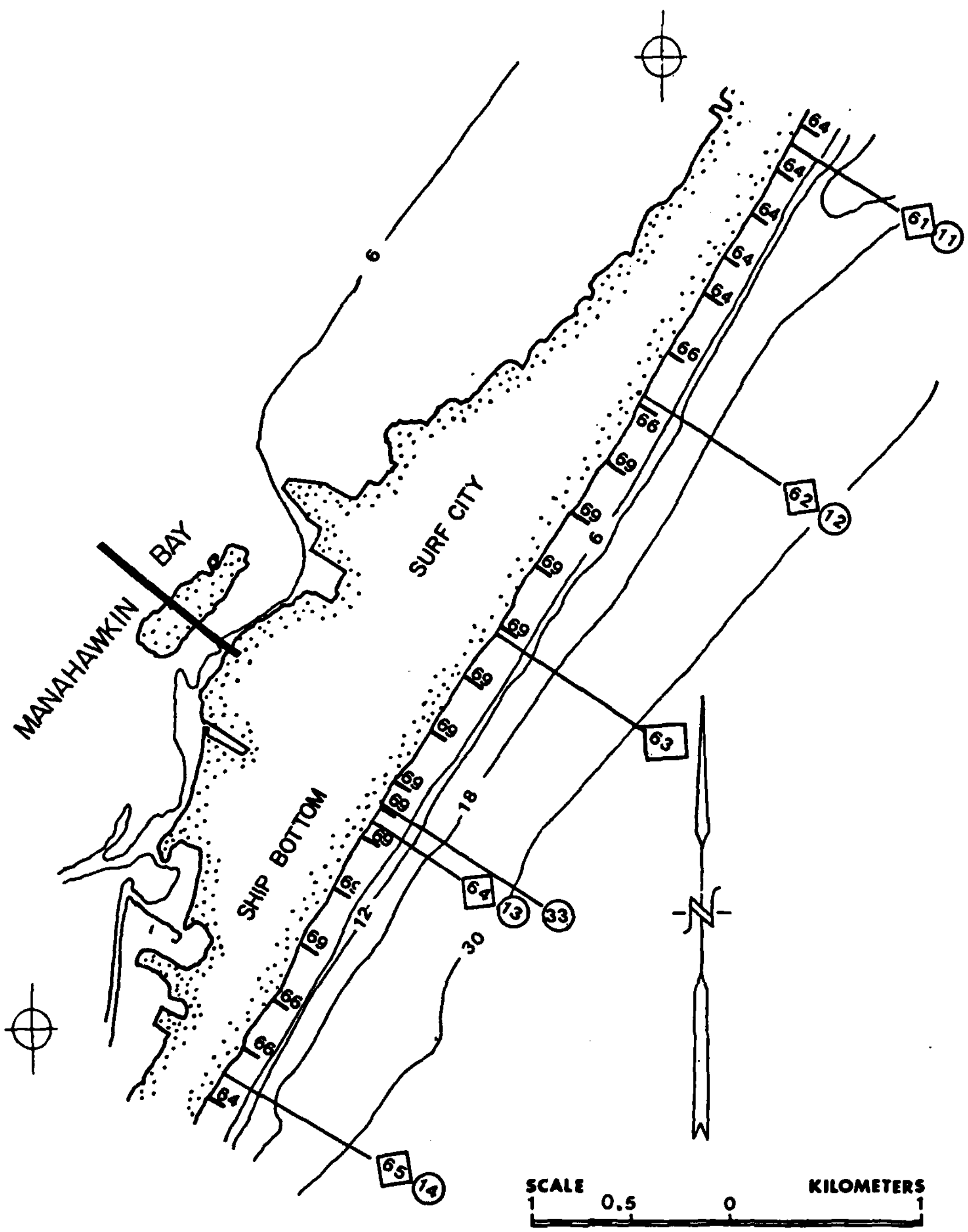
a. Barnegat Light to Loveladies (groins inside jetties constructed before 1960).

Figure 4. Segmented map (a to f) of Long Beach Island, showing locations and dates of construction of groins, beach profile lines (circles), offshore profile lines (diamonds), and bathymetry (in feet).



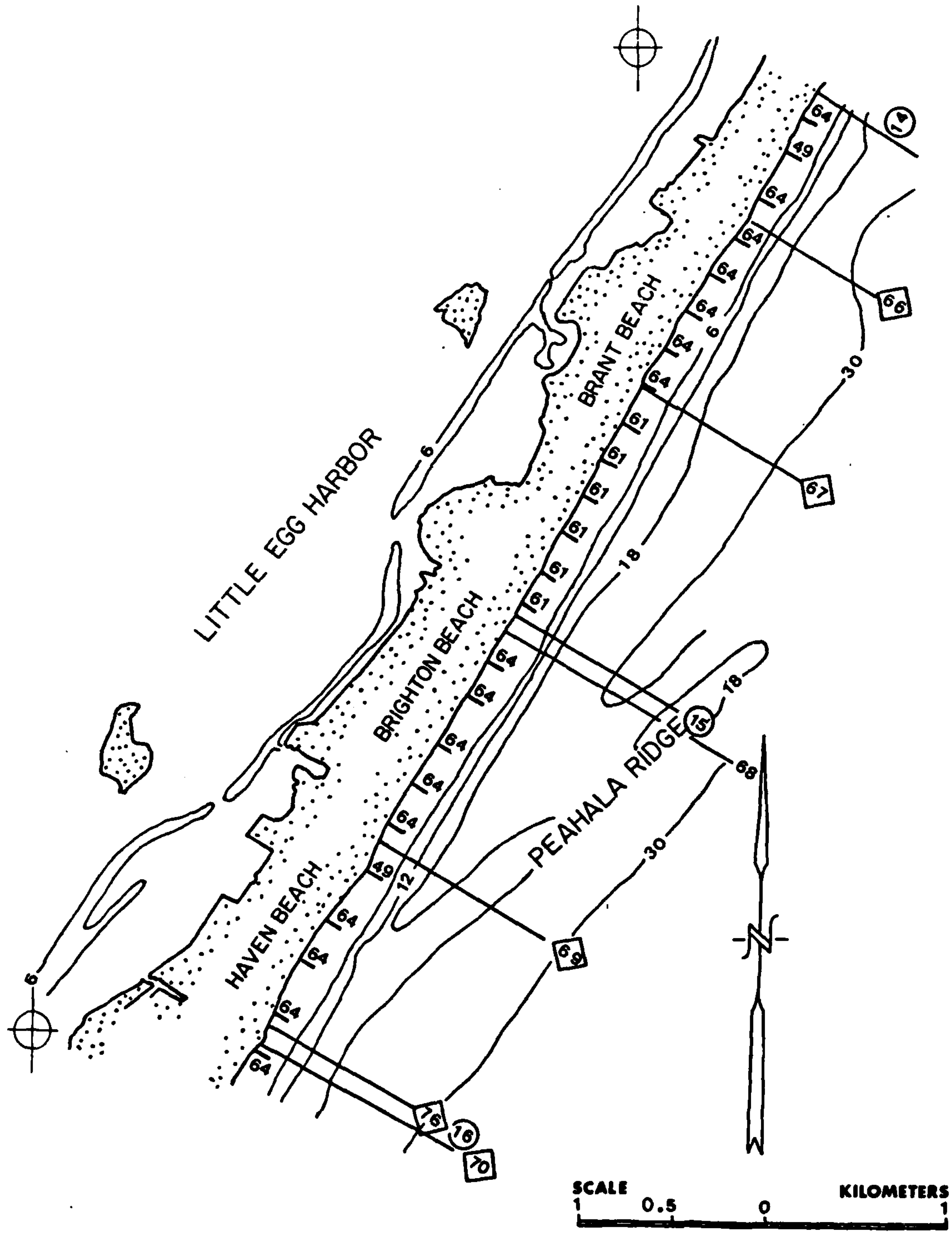
b. Harvey Cedars to North Beach (includes site of groin field studies).

Figure 4. Segmented map (a to f) of Long Beach Island, showing locations and dates of construction of groins, beach profile lines (circles), offshore profile lines (diamonds), and bathymetry (in feet).--Continued



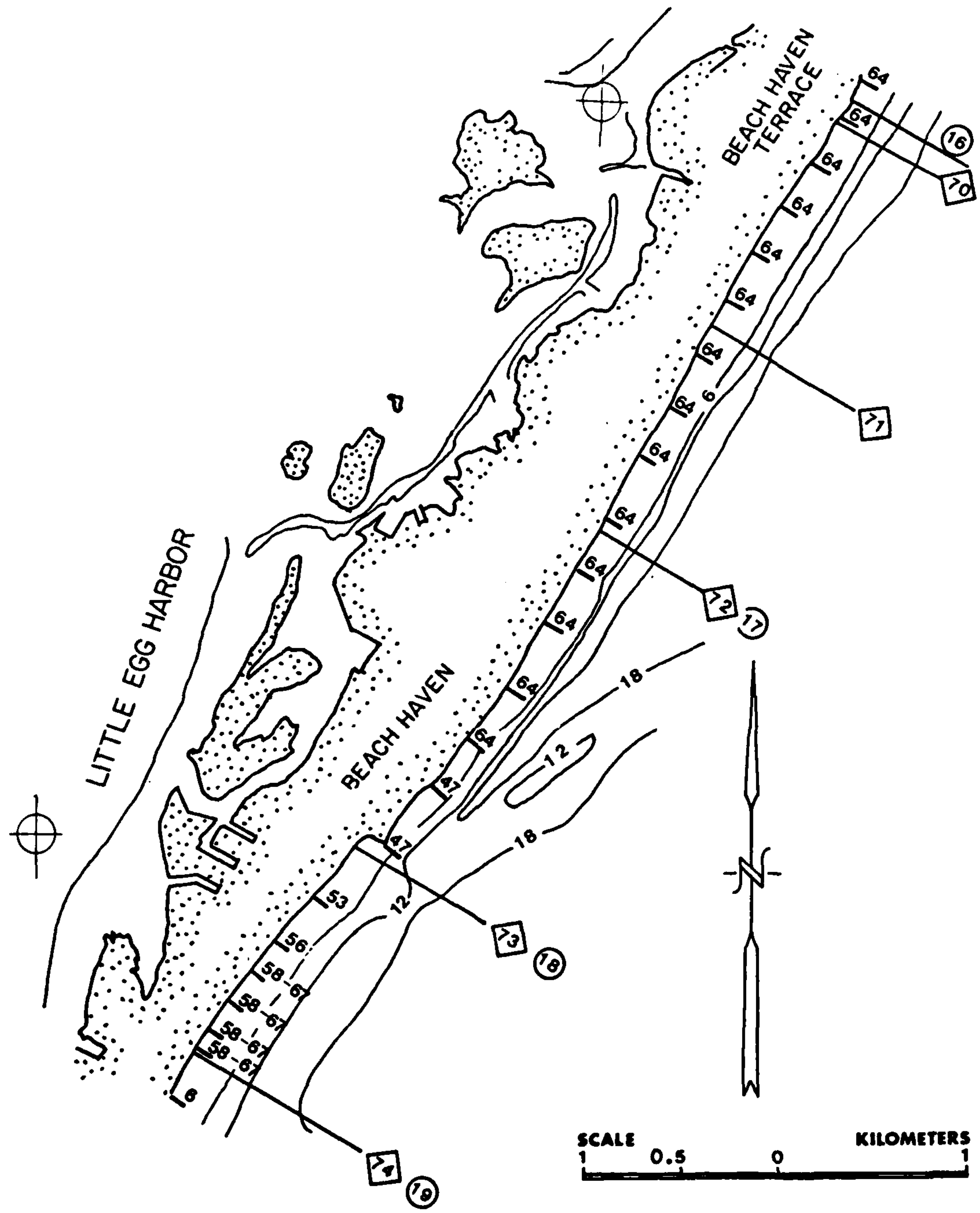
c. North Beach to Ship Bottom.

Figure 4. Segmented map (a to f) of Long Beach Island, showing locations and dates of construction of groins, beach profile lines (circles), offshore profile lines (diamonds), and bathymetry (in feet).--Continued



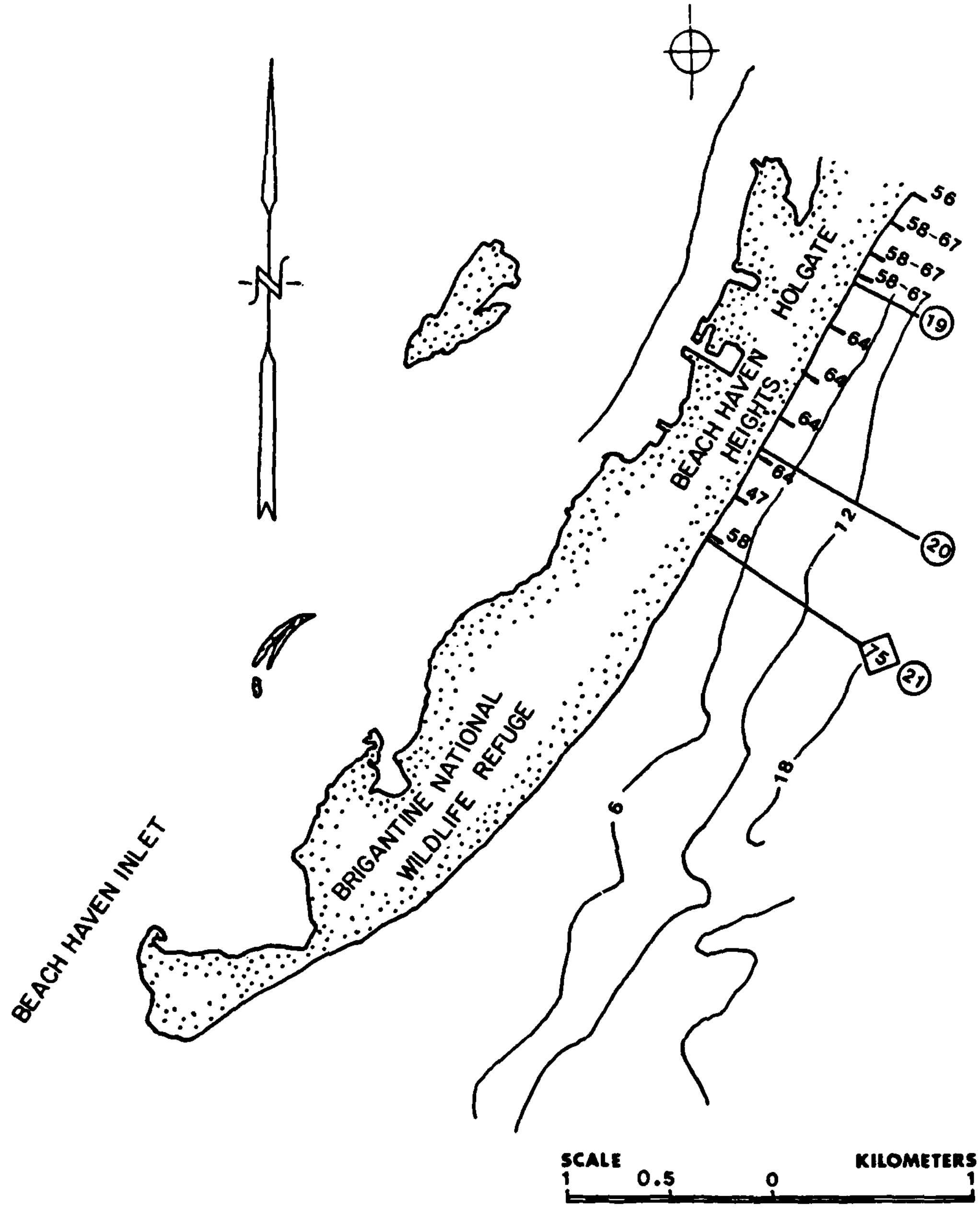
d. Brant Beach to Haven Beach.

Figure 4. Segmented map (a to f) of Long Beach Island, showing locations and dates of construction of groins, beach profile lines (circles), offshore profile lines (diamonds), and bathymetry (in feet).--Continued



e. Beach Haven Terrace to Beach Haven.

Figure 4. Segmented map (a to f) of Long Beach Island, showing locations and dates of construction of groins, beach profile lines (circles), offshore profile lines (diamonds), and bathymetry (in feet).--Continued



f. Holgate to Brigantine National Wildlife Refuge.

Figure 4. Segmented map (a to f) of Long Beach Island, showing locations and dates of construction of groins, beach profile lines (circles), offshore profile lines (diamonds), and bathymetry (in feet).--Continued

not of structural origin. Similar linear shoals found in deeper water may be relict features formed during a lower stand of sea level. The role of shoreface-connected shoals in modifying the nearshore circulation and wave regime is unknown though it may be considerable.

III. METHODS

1. Profile Lines and Monumentation.

Thirty-two profile lines, extending from Barnegat Light to just south of Beach Haven, were surveyed along Long Beach Island. The location of the profile lines and their proximity to 110 groins on the island are shown in Figure 4. Locations of the groins were carefully checked with recent air photos and Corps of Engineers records (U.S. Army Engineer District, Philadelphia, 1974). Each groin in Figure 4 is indicated by the last two digits of the year of its construction. The survey periods and the number of measurements per profile line are given in Table 1. Profile lines 1 to 21 and 32 were established at the beginning of the period and, except as noted, were continued through the entire program. Profile line 4 was established just south of the groin shown in Figure 4. Profile measurements were taken from September 1962 to January 1966 with those readings from the north side of the groin referred to as profile line 32 and those to the south as profile line 4. Profile line 32 was discontinued after January 1966, and profile line 4 was standardized at a position 15 meters south of the groin. Profile line 13 was relocated one block northward (about 200 meters) in September 1969 and renumbered profile line 33 when a rock groin was constructed along the original profile line. In August 1972, a series of closely spaced profile lines was established among successive groins between the communities of Loveladies and Harvey Cedars to observe the influence of the structures.

a. Survey Procedures. The original profile lines were intended to be equally spaced. However, spacing was modified to place profile lines along a more representative section of beach, avoid structures, provide accessibility, or provide information of special interest. As shown in Table 1, spacing, except in the special groin field study area, varied from 318.2 to 3,285.7 meters. Profile measurements were taken by surveying crews from the U.S. Army Engineer District, Philadelphia. Horizontal control for the stations consisted of a monument at or near each profile line with references tied to cultural features such as houses, telephone poles, etc., and third-order survey control providing state-plane and geodetic coordinates of the monument. Vertical control consisted of a third-order elevation of the top of the monument with respect to sea level datum (Jacobs, 1978). The documentation of the location of each profile monument referred to the New Jersey Transverse Mercator as well as the azimuth of the line is given in Appendix A.

The surveying crews measured the profile line using a level and tape technique. A reference elevation was established at a fixed object such as the top of a log barricade, the foot spike on a telephone pole, or nail markers driven into the roadway.

The survey proceeded seaward, approximately perpendicular to the shoreline, from the reference along the preselected azimuth, maintained by alinement of two separated, fixed objects in the manner of a navigational range. Readings

Table 1. Summary of profile lines and surveys.

Profile line[1]	Distance to next profile (m)	Survey period		Total surveys	Remarks
		First reading	Last reading		
1	363.9	26 Sept. 62	12 June 73	99	
2	318.2	26 Sept. 62	12 June 73	99	
3	1,580.7	26 Sept. 62	12 June 73	98	
32		26 Sept. 62	25 Jan. 66	23	Discontinued
4	1,620.9	26 Sept. 62	12 June 73	89	
5[2]	1,118.0	26 Sept. 62	12 June 73	97	
6	433.4	26 Sept. 62	12 June 73	99	
22	88.1	29 Aug. 72	11 June 73	10	Groin field
23	88.4	29 Aug. 72	11 June 73	10	Groin field
24	89.6	29 Aug. 72	11 June 73	10	Groin field
25	89.9	29 Aug. 72	11 June 73	10	Groin field
26	89.9	29 Aug. 72	11 June 73	10	Groin field
27	86.6	29 Aug. 72	11 June 73	10	Groin field
28	44.5	29 Aug. 72	11 June 73	10	Groin field
7	39.9	26 Sept. 62	11 June 73	99	
29	81.1	29 Aug. 72	11 June 73	10	Groin field
30	1,465.5	29 Aug. 72	11 June 73	10	Groin field
8[2]	619.0	26 Sept. 62	12 June 73	99	
9	823.0	26 Sept. 62	12 June 73	90	
10	1,097.6	26 Sept. 62	12 June 73	99	
11	1,499.3	26 Sept. 62	12 June 73	99	
12	2,595.1	26 Sept. 62	12 June 73	99	
13[3]	1,526.1	26 Sept. 62	28 May 69	64	Relocated to line 33
33		24 Sept. 69	12 June 73	37	Replaced line 13
14	3,285.7	2 Oct. 62	12 June 73	98	
15	2,610.9	2 Oct. 62	12 June 73	98	
16[3]	2,646.9	2 Oct. 62	12 June 73	99	
17	2,006.5	2 Oct. 62	12 June 73	91	
18	1,374.6	2 Oct. 62	12 June 73	98	
19	954.3	2 Oct. 62	12 June 73	98	
20[4]	548.6	2 Oct. 62	12 June 73	98	
21		2 Oct. 62	12 June 73	98	
			Total	2,158	

[1]No record of profile line 31.
[2]Monument offset from actual profile line.
[3]Pipe profile (Urban and Galvin, 1969).
[4]Chart measurement.

were taken every]5 meters or at each break in the beach slope, then continued to -0.6 meter MSL by the rodman. Surveys were timed to coincide with low tide to extend to that depth. Occasionally, however, extreme water levels or surf conditions prohibited seaward extension of the profiles. Crews were generally able to complete three profile lines per hour so the entire Long Beach Island survey (30 lines) was planned for several days.

Readings were taken to the nearest 30.0 centimeters in the horizontal and 3.0 centimeters in the vertical. It was occasionally necessary to move the level, and care was taken to document the elevation and new location. Survey lines were not closed except during the last year of the study.

Pipes were placed along profile lines 13 and 16 to test this method of measuring beach elevation. A 6.4-meter section of 3.8-centimeter inside-diameter iron pipe was marked in 15.2-centimeter sections and jetted 4.0 meters into the sand. These were placed every 15.2 meters along the selected profile lines and their position and elevation established by standard surveying methods. Weekly sand level readings were taken by local observers during the period from 6 December 1967 to 1 May 1968. Detailed results of the pipe survey are given in Urban and Galvin (1969). This short study showed that sand level variations of more than a meter occurred on the beach face during the winter storms of 1968. Measurements were not continued long enough to observe variations during the summer months nor was the study designed to provide transport rates and direction.

b. Survey Frequency. Profile measurement intervals were begun biweekly; however, successive surveyed profiles changed little and were of limited engineering significance. The interval was increased to monthly and further extended later in the program. The distributions of seasonal measurements by month and year are shown in Figures 5 and 6, respectively. Unscheduled surveys were made shortly before and after storms, when possible, to measure the effects of individual events. Documented coastal storms occurring during the 1962-73 study period are listed in Table 2. The frequency of surveys relative to storms is shown in Appendix B. No surveys were taken during the summer seasons of 1965 to 1969 since changes were considered too small to be of any meaning. This gap in the data set may have consequences for later statistical analysis of the temporal variability. Beach measurements taken in the groin field (profile lines 22 to 30) consist of only 10 surveys per profile line, none of which were taken during May, July, September, or November.

Survey data were recorded in field notebooks. Computations of range and elevation were made by the noteman in the field and were doublechecked by another member of the survey team. The detailed procedures of transcriptions to coding forms for computer processing are given in DeWall (1979, p. 15). All data were meticulously hand-checked and spurious points were either corrected or discarded. Profile data are shown in tabulated form in Appendix C.

2. Profile Analysis.

Each profile was analyzed by CERC and computer plots generated for (a) MSL position (App. B), (b) above MSL change in unit volume between surveys (App.D), and (c) profile envelopes (App. E). All profile changes are referred to the conditions existing on the "initial survey date." The distance-elevation

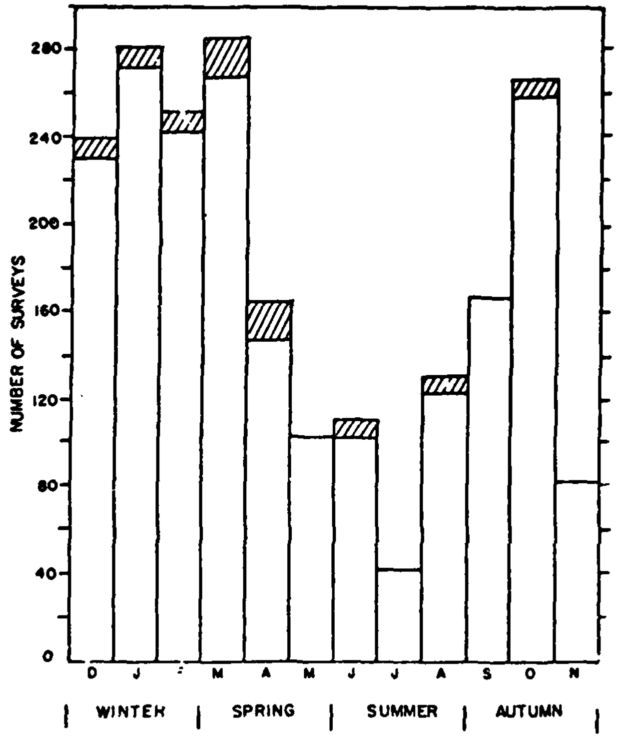


Figure 5. Distribution of profile line surveys by month and season. Cross hatching indicates survey of profile lines 22 to 30.

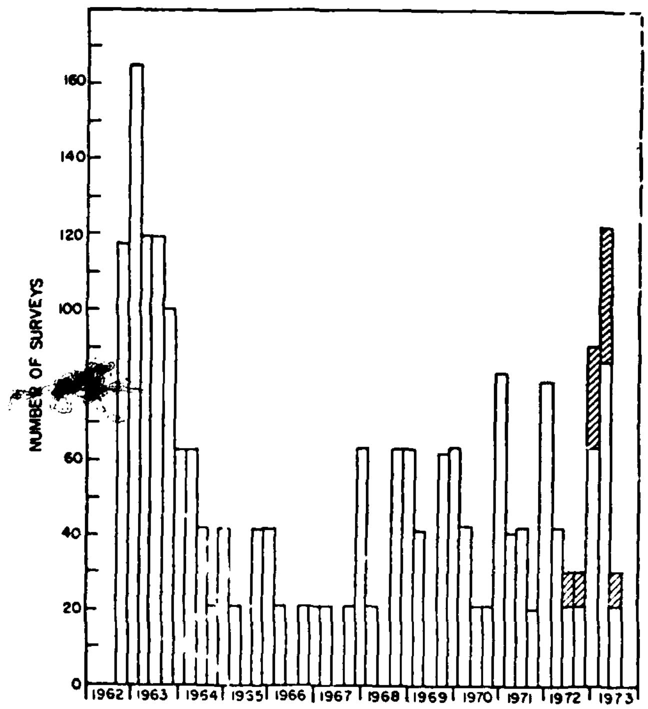


Figure 6. Distribution of profile line surveys by year and season. Cross hatching indicates survey of profile lines 22 to 30.

Table 2. Documented coastal storms occurring during period of BEP surveys, September 1962 - June 1973.

Year	Storm date	Source[1]	Survey Dates		Volume Change (m^3/m)		Remarks
			Before	After	Mean	Variance	
1962	28 Sept.	1	26 Sept.	28 Sept.	-28.77	9.38	Northeaster coastal erosion
	03 Nov.	1,5	29 Oct.	08 Nov.	-10.07	14.12	Coastal storm. "Classic Northeaster"
	10 Nov.	1	08 Nov.	10 Dec.	1.03	17.29	Coastal storm damage
	27 Nov.	1	08 Nov.	10 Dec.	1.03	17.29	Dune erosion
1963	16-30 Oct.	2,5	10 Oct.	25 Oct.	6.79	13.30	Hurricane GINNY, 19-22 Oct. in area
	03 Nov.	1,4	25 Oct.	15 Nov.	- 5.39	18.05	1.40-m maximum tide, Atlantic City
	10 Nov.	4	25 Oct.	15 Nov.	- 5.39	18.05	1.71-m maximum tide, Sandy Hook
	29-30 Nov.	5	15 Nov.	27 Dec.	10.73	18.05	
	08 Dec.	1	15 Nov.	27 Dec.	10.73	16.79	
1964	12 Jan.	1,3,4,5	27 Dec.	15 Jan.	-24.14	18.48	Blizzard, 1.40-m maximum tide, Sandy Hook
	04-16 Sept.	2	29 Aug.	24 Sept.	- 2.33	18.72	Hurricane ETHEL
	13-24 Sept.	1,2	29 Aug.	24 Sept.	- 2.33	18.72	Hurricane GLADYS
	07 Nov.	4	24 Sept.	01 Dec.	3.24	19.29	1.37-m maximum, Atlantic City
1965	17 Jan.	4	01 Dec.	19 Jan.	- 4.75	21.90	1.37-m maximum, Atlantic City 1.52-m maximum, Sandy Hook
	15 Feb.	1	19 Jan.	27 Apr.	8.64	22.39	
	27 May	1	27 Apr.	07 Sept.	5.57	19.89	
	11-18 June	2	27 Apr.	07 Sept.	5.57	19.89	Tropical storm, unnamed
	05 July	1	27 Apr.	07 Sept.	5.57	19.89	
1966	23 Jan.	1,4	22 Dec.	25 Jan.	-15.67	15.73	1.68-m maximum, Atlantic City 2.04-m maximum, Sandy Hook rain, snow, wind, erosion
	04-14 June	2	21 Mar.	22 Sept	1.87	20.88	Hurricane ALMA
	24 Dec.	1	22 Sept.	16 Jan.	8.72	16.33	Snow
1967	07 Feb.	1	16 Jan.	05 May	- 9.37	19.30	Heavy snow
	27 April	4	16 Jan.	05 May	- 9.37	19.30	1.52-m maximum, Sandy Hook
	24 May	4	05 May	20 Sept.	11.10	24.27	1.43-m maximum, Atlantic City
	10-17 Sept.	1,3,4,5	05 May	20 Sept.	11.10	24.27	Hurricane DORIA
1968	07 Jan.	5	18 Dec.	17 Jan.	- 3.95	17.56	Insignificant storms
	14 Jan	5	18 Dec.	17 Jan.	- 3.95	17.56	
	25 Jan	5	17 Jan.	27 Feb.	- 2.74	18.19	
	08 Feb.	5	17 Jan.	27 Feb.	- 2.74	18.19	
	25 Feb	5	17 Jan.	27 Feb.	- 2.74	18.19	
	01 Mar.	1,3,5	27 Feb.	27 Mar.	3.76	18.71	
	13 Mar.	5	27 Feb.	27 Mar.	3.76	18.71	
	18 Mar.	5	27 Feb.	27 Mar.	3.76	18.71	
	23 Mar.	5	27 Feb.	27 Mar.	3.76	18.71	
	05 Apr.	5	27 Mar	09 Oct.	12.98	22.53	
1968	17-26 June	2	27 Mar	09 Oct.	12.98	22.53	Hurricane BRENDA
	13-21 Oct.	2	09 Oct.	23 Oct.	8.67	12.63	Hurricane GLADYS
	03 Nov.	4	23 Oct.	13 Nov.	-23.85	22.95	1.43-m maximum, Sandy Hook
	12 Nov.	1	23 Oct.	13 Nov.	-23.85	22.95	Wind, rain, snow, erosion
	29 Dec.	4	18 Dec.	15 Jan.	2.48	7.77	1.37-m maximum, Atlantic City
1969	24 Mar.	1,3	04 Mar.	28 May	17.93	31.15	Rain, coastal storm
	25 July-05 Aug.	2	28 May	24 Sept.	- 7.65	19.86	Tropical storm ANNA
	10-13 Aug.	2	28 May	24 Sept.	- 7.65	19.86	Hurricane BLANCHE
	14-22 Aug.	2	28 May	24 Sept.	- 7.65	19.86	Hurricane CAMILLE
	01-10 Oct.	2	24 Sept.	20 Oct.	7.81	13.61	Tropical storm JENNY
	02 Nov.	4,5	20 Oct	18 Nov.	- 3.12	15.79	2.04-m maximum, Sandy Hook 1.62-m maximum, Atlantic City Minor storm
	11 Dec.	5	18 Nov.	18 Dec.	8.04	13.65	Coastal storm
	15 Dec.	1,3	18 Dec.	20 Jan.	5.45	18.28	Coastal storm

Table 2. Documented coastal storms occurring during period of BEP surveys, September 1962 - June 1973.--Continued

Year	Storm date	Source[1]	Survey Dates Before	Survey Dates After	Volume Change (m^3/m) Mean	Volume Change (m^3/m) Variance	Remarks
1970	07 Jan.	5	18 Dec.	20 Jan.	5.45	18.28	Storm moved rapidly
	23 Mar.	5	18 Mar.	21 May	8.79	19.51	
	02 Apr.	1	19 Mar.	21 May	8.79	19.51	
	17-27 May	2	21 May	28 Aug.	1.34	40.05	Hurricane ALMA
	15-18 Aug.	2	21 May	28 Aug	1.34	40.06	Tropical storm, unnamed
	27 Sept.	1	28 Aug.	12 Oct.	7.54	11.74	
	22 Oct.	5	12 Oct.	07 Dec.	- 4.28	43.86	
	26 Oct.	5	12 Oct.	07 Dec.	- 4.28	43.86	
	04 Nov.	1	12 Oct.	07 Dec.	- 4.28	43.86	Coastal storm
	17 Dec.	1,3,5	07 Dec.	18 Dec.	-14.71	32.03	
	26 Dec.	4	18 Dec.	12 Jan.	0.16	10.46	1.77-m maximum, Sandy Hook
1971	23 Mar.	5	08 Mar.	08 Apr.			Lesser storm than 27 March
	27 Mar.	4,5	08 Mar.	08 Apr.	- 2.81	14.95	1.58-m maximum, Sandy Hook
	06-07 Apr.	5	08 Mar.	08 Apr.	- 2.81	14.95	Typical northeaster
	04-07 July	2	24 June	17 Aug.			Tropical storm ARLENE Volume data not available
	10-17 Aug.	2	24 June	17 Aug.			Hurricane BETH, volume data not available
	20-29 Aug.	2,3	17 Aug.	07 Oct.	- 2.92	11.08	Tropical storm DORIA
	10-14 Sept.	2	17 Aug.	07 Oct.	- 2.92	11.08	Tropical storm HEIDI
1972	25 Jan	1	12 Jan.	15 Feb.	- 6.27	9.07	
	04 Feb.	5	12 Jan.	15 Feb.	- 6.27	9.07	Typical northeaster, no serious damage
	13 Feb.	5	12 Jan.	15 Feb.	- 6.27	9.07	
	19 Feb.	4,5	15 Feb.	23 Feb.	- 0.69	12.99	1.65-m maximum, Atlantic City 1.89-m maximum, Sandy Hook
1972	14-22 June	1,2	11 Apr.	23 Aug.	25.17	27.97	Hurricane AGNES
	29 Aug. - 05 Sept.	2	23 Aug.	17 Oct.	0.01	23.35	Tropical storm CARRIE
	21 Dec.						
1973	28-29 Jan.	5	03 Jan.	13 Feb.			
	09-12 Feb.	5	03 Jan	13 Feb.			
	21 Mar.	1,3,5	13 Mar.	24 Mar.	- 5.36	14.24	Coastal storm, erosion, flooding

[1]Information sources are:

1 Storm Data and Unusual Weather Phenomena, U.S. Department of Commerce, NOAA, National Climatic Service, Series.

2 Newmann, et al. (1978).

3 DeWall (1979).

4 Ho, et al. (1976).

5 Birkemeier (1980).

coordinates of the MSL contour intercept with the initial survey on each profile line are defined as the origin of a coordinate system to which all subsequent surveys are referred (Fig. 7). Negative distances indicate stations landward of the MSL intercept with the initial profile; positive distances indicate seaward stations.

For a profile crossing the MSL elevation, the MSL intercept was linearly interpolated. When a profile did not cross the MSL elevation, but reached the 0.61-meter MSL elevation, the MSL intercept was determined by extrapolating the profile along the slope defined by the two seawardmost surveyed points on the profile (DeWall, 1979). Extrapolated shoreline points are indicated by the "x" symbol in the plots of Appendix B. Profile lines which could not be surveyed to the 0.61-meter MSL elevation were not used for shoreline or volume computations.

The cross-sectional area under each profile was computed. This area is bounded by three lines: (a) a vertical line projected from the landwardmost distance common to all surveys on a given profile line, (b) a horizontal line at the MSL elevation, and (c) the surveyed profile. The calculation was accomplished by summing 30.5-centimeter horizontal slices through the area under the profile from the highest elevation to MSL. The area change was then computed by subtracting the measured profile area from the previous profile area (Fig. 8). Note that the change in area (and volume) is referred to the previous profile and not the original profile. Cross-sectional areas were computed in square feet and then converted to unit volume in cubic meters per meter of shoreline.

The plots in Appendix E are profile envelopes; i.e, the plots show two lines drawn through the upper and lower extremes of the surveyed sand elevations on each of the profile lines. The envelope of extremes contains points from many different surveys, rather than trace a particular eroded or accreted profile found during one survey. This profile "sweep zone" is useful for designing the required depth of footings for coastal structures, burial depth for pipelines, and for other beach protection or improvement considerations.

The temporal and spatial variability of each of the beach profiles was also evaluated using empirical eigenfunction analysis. This technique has been used in a variety of scientific disciplines for many years (Lorenz, 1959), but it is only recently that the technique has been applied to examination of variability within the coastal zone.

When applied to analysis of a profile line resurveyed over a period of time, the method is useful in determining the topographic variability in the onshore-offshore direction and in time. Comparison of the eigenfunctions of a series of profiles taken along a coastline is useful for determining the longshore variability. The technique has been applied to studies on beaches, islands, and other coastal and bathymetric features on both coasts (Winant, Inman, and Nordstrom, 1975; Vincent, et al., 1976; Resio, et al., 1977; Aubrey, 1978).

The objective of eigenfunction analysis is to separate the temporal and spatial dependence of the data set so that it can be represented as a linear combination of corresponding functions of time and space (Winant, Inman, and Nordstrom, 1975). This helps identify processes responsible for profile

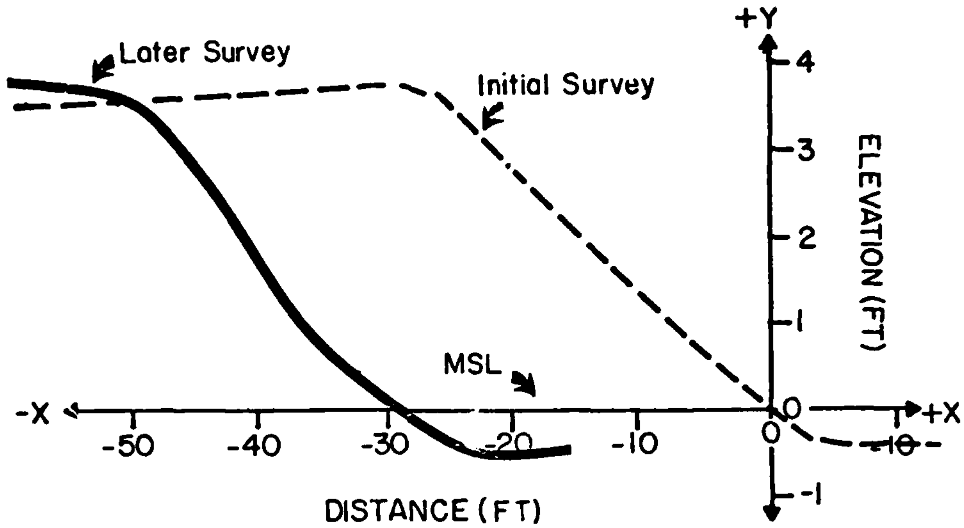


Figure 7. Profile line coordinate system (from DeWall, 1979).

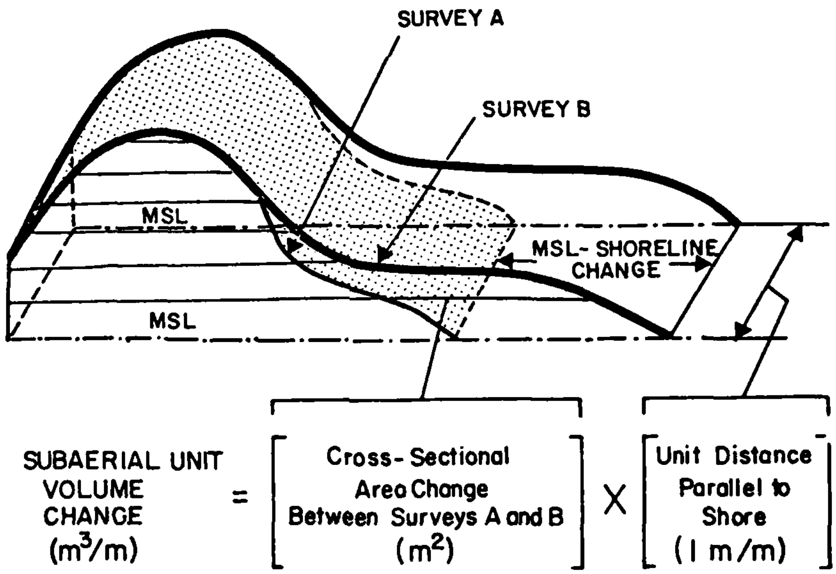


Figure 8. Definition of MSL shoreline change and above MSL unit volume change (from DeWall, 1979).

changes, assists in evaluation of their relative importance, and aids the identification of specific events.

The shape of a single profile changes between measurements in response to the many process variables (e.g., waves, wind, water level, etc.) active on the beach. A careful evaluation of a profile line measured frequently over time may reveal systematic changes in its shape. Regular seasonal changes in profile area, for instance, were obvious on west coast beaches before being quantitatively confirmed by empirical eigenfunction analysis (Shepard, 1973; Aubrey, 1978). Along a single profile, zones of maximum variation are to be expected in the region of maximum wave energy dissipation. This, again, has been confirmed by empirical eigenfunctions on west coast beaches (Aubrey, 1978). The technique does not explain the physical reason for the variability. In the case of beach profiles, the sand is moved in response to wave forcing in a manner which is assumed to be deterministic, or at least statistically predictable. In this case, it is hoped that since the wave forcing provides most of the variability, the eigenfunctions will reflect this mechanism. By examining the temporal structure of the beach eigenfunctions along with spatial structure, the decision can be made as to whether, in fact, the eigenfunctions represent some physically meaningful process. This has been shown to be the case in nearshore profile studies.

Profiles obtained during the BEP do not extend beyond about the -0.61 meter MSL shoreline. For that reason, beach variability associated with transport in the nearshore zone seaward of this limit cannot be determined. This is a serious limitation of the data set and is not associated with a limitation in the method of analysis. It is known that the breaker zone and nearshore are regions of active transport both onshore-offshore and alongshore. Offshore bars act as periodic storage areas for sand that is later supplied to the beach under favorable wave conditions. The time periods and detailed response of this region cannot be determined from the available data.

IV. RESULTS

1. Temporal Variability.

a. Short-Term Changes (Storms). Coastal storms, such as the March 1962 storm, are particularly important agents for causing massive changes to the beaches. This storm, which never reached hurricane strength, resulted from two low-pressure cells which combined several hundred miles off the coast of New Jersey, Delaware, Maryland, and Virginia. It then remained stationary from 6 to 8 March generating high tides (2.2 meters above MSL) and extreme waves (6.1 to 9.1 meters high) which battered the coastline through five tidal cycles. The damage to Long Beach Island was particularly severe (Fig. 9). The northern end of the island was breached in four locations with waves destroying or damaging nearly every structure. In the vicinity of Harvey Cedars, the dune was breached, the area flooded, and most houses washed into Barnegat Bay. Dollar value of the damage at Long Beach Island was estimated at $19,754,000, of which nearly half was attributed to storm waves. Other effects of the storm have been documented (Cooperman and Rosendal, 1962; U.S. Army Engineer Division, North Atlantic, 1963).

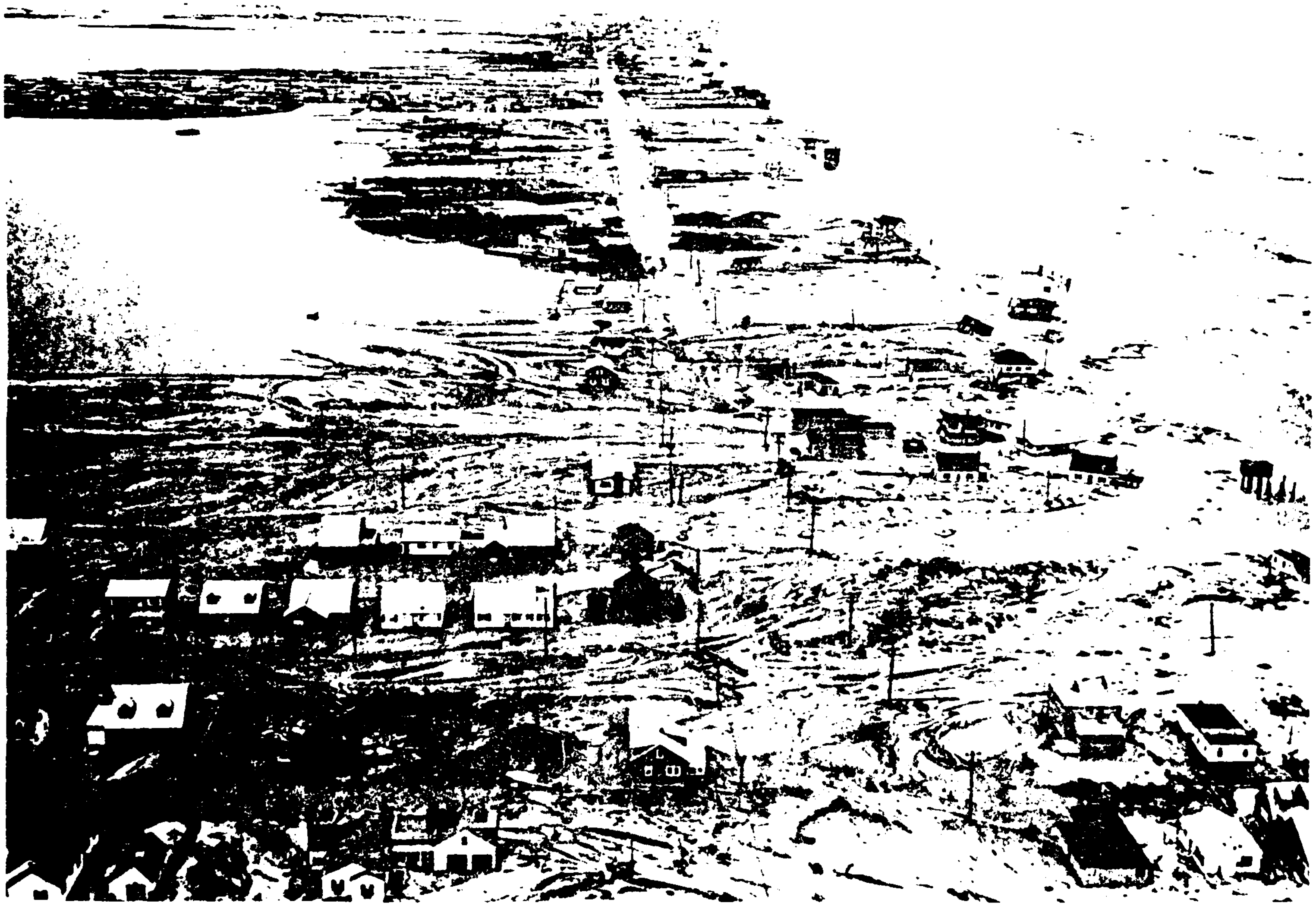


Figure 9. Damage caused by March 1962 coastal storm. Loveladies, Long Beach Township, Long Beach Island looking north, 9 March 1962 (from U.S. Army Engineer Division, North Atlantic, 1963).

After the March 1962 storm, emergency measures were necessary to rebuild the dune along 5,790 meters of shoreline. Approximately 182,220 cubic meters of sand was used to reconstruct a dune 3.0 to 3.7 meters above MSL. This restoration program was completed by late April 1962, 5 months before the first BEP survey. Sidecast dredging of Barnegat Inlet has continued on an annual or semiannual basis since 1972. Some of the dredged material was placed directly on the beach in the vicinity of profile lines 1 and 2. No other documented beach nourishment projects were carried out on Long Beach Island until the summer of 1979 when dredged material from the Barnegat channel was discharged along the shore to form a feeder beach at the north end of the island. Nourishment, then, has not been a factor in the evaluation of beach changes.

Table 2 provides a comprehensive list of storm events, compiled from various sources, for the study period. The record of storm data collected by the National Climatic Center (NCC) was reviewed for the period 1962 to 1973 for events that indicated a coastal impact such as high tides, coastal flooding and coastal erosion. Locations were not specifically indicated in this source. Tropical storms and hurricanes were obtained from Newmann, et al. (1978). Those events were selected which passed close enough to Long Beach Island to have an expected effect. Other historical documents indicating storms or occurrences of significant coastal impact were U.S. Army Engineer District, Philadelphia (1974), Ho, et al. (1976), DeWall (1979), and Birkemeier (1980).

Wind records from the NCC recording station at Atlantic City for the study period were sorted to determine the occurrences of winds greater than 54 kilometers per hour. The average monthly distribution of these severe winds is shown in Figure 10. This tabulation covers the period from 1965 to 1973, during which winds were recorded at 3-hour intervals. The distribution is decidedly seasonal but probably underestimates the actual time of severe winds along the beach since the recording station is located several miles inland. A 22-year record of winds at the Atlantic City station shows that most of the stormwinds are from the northeast, followed in frequency of occurrence by winds from the east (U.S. Army Engineer District, Philadelphia, 1974).

The Atlantic City NCC recording station is located at the Aviation Facilities Experiment Station, 16 kilometers inland from Atlantic City (Fig. 1). An analysis performed by the U.S. Army Engineer District, Philadelphia (1974) shows that the number of annual storm hours (e.g., the number of hours the recorded wind velocity was 51 kph or greater during a 24-hour period when the average velocity was 40 kph or greater) significantly decreased when the wind recording station was moved inland. Wind data are also recorded by the Coast Guard observers at Barnegat Light. These data are available in raw form from NCC but were not used in this study since analysis of the storm response required only that the event be identified and the Atlantic City data were sufficient for that purpose.

A total of 77 identified storm events occurred during the study period (Table 2). Column five in Table 2 indicates that the response of the beach during these storms was, in most cases, highly variable. This column is the volume change between survey periods averaged along the entire beach; the second number is the variance. The average change cannot be taken as a quantitative measure of sand movement since the profile lines were not evenly distributed along the beach. The sign of the number and its relative magnitude does,

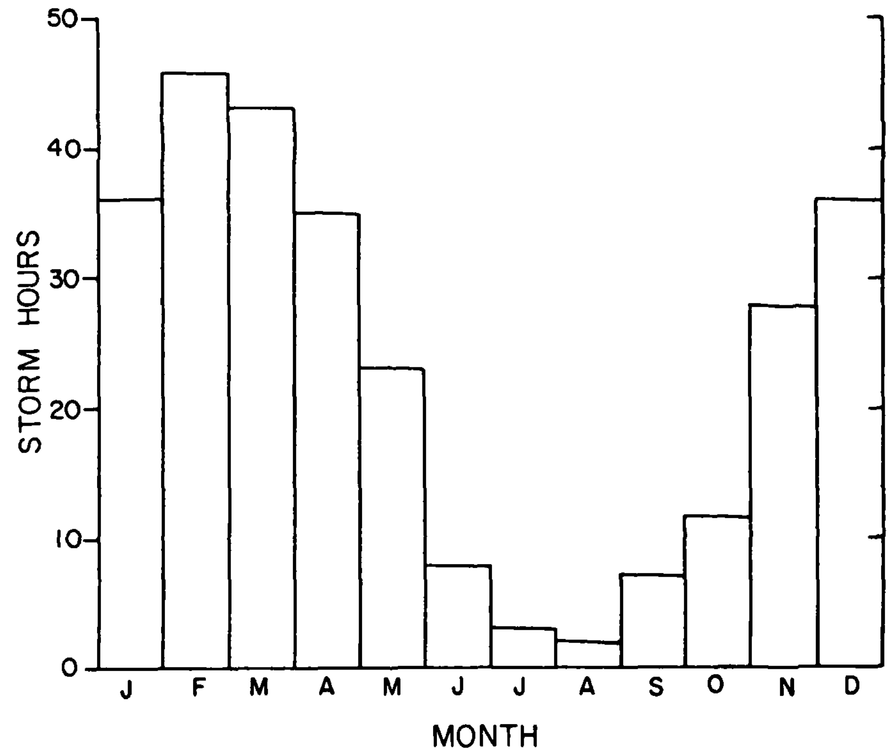


Figure 10. Average number of storm hours recorded at Atlantic City, New Jersey, 1965-73. A storm hour is defined as an hour when the wind is 51 kilometers per hour or greater during a 24-hour period when the average velocity was 40 kilometers per hour or greater (U.S. Army Engineer District, Philadelphia, 1974).

however, indicate qualitatively the trend over the period. Variance larger than the mean shows that some of the profiles prograded while others were eroded over the time interval between profiles.

The criteria for selecting the storms in Table 2 were based on those events that showed a significant change in the average beach volume, which could be attributed to a single event. This required that the storm be closely bracketed by surveys. An attempt was made to select storms distributed by season and over the entire period of the survey record. Of the 15 events that met these criteria, four which caused extensive erosion are discussed below. The results of an additional severe winter storm were previously reported by DeWall, Pritchett, and Galvin (1977). Each of the selected storms occurred during seasons other than summer. This is because widely spaced summer surveys did not meet the selection criteria and, as shown in Figure 5, few storms occur during the summer months.

(1) Refraction of Storm Waves. Strong onshore winds and low pressure enhance normal water levels and combine with storm-generated waves to cause coastal flooding and erosion. The direction and rate of net littoral transport cannot be determined from the beach profile data alone. Previous studies of the motion of the Long Beach Island inlets have concluded that a nodal zone exists in the vicinity of Barnegat Inlet with transport north of the zone toward the north and south of the zone toward the south (U.S. Army Engineer District, Philadelphia, 1974). However, no detailed studies are available which show the location of the node, its migration pattern, or the rate and direction of littoral drift along the length of the island. Studies which hope to answer these and other questions are being conducted (Dr. G. Ashley, Rutgers University, New Brunswick, New Jersey, personal communication, 1979).

Summary wave information was available from the wave gage at Steel Pier, Atlantic City, New Jersey, for most of the study period (Thompson, 1977). This provided height and period statistics, but did not provide directional information necessary for computation of sand transport. Wave data were also available from the Summary of Synoptic Meteorological Observations (SSMO), Volume 3 (U.S. Naval Weather Service Command, 1975). These are not appropriate for calculations of sand transport because they are at-sea observations and do not give precise directional information. They are also biased toward low wave conditions since reporting ships attempt to avoid severe weather by rescheduling or rerouting. Local visual observations were collected as part of the BEP at selected profile line locations from 1968 to 1974. These provide estimates of wave height, period, and direction. According to these sources, storm waves generated by northeasters may develop periods of 8 to 12 seconds.

Storm winds approach Long Beach Island from the northeast, east, and southeast in that order of frequency of occurrence (U.S. Army Engineer District, Philadelphia, 1974). Wave refraction diagrams were developed for waves approaching from these directions in order to determine if local topographic features caused wave focusing or other effects along the island and to obtain qualitative estimates of the locations of energy concentration under various conditions of offshore wave approach. Interpretation of these results should not be heavily relied upon since many assumptions are made about the waves and their behavior that do not apply to the prototype situation. Monochromatic, linear waves are

assumed and bottom frictional effects are ignored. These assumptions may lead to serious consequences since wave energy is not at a single mode but in a spectrum (unknown in this case) which may be altered as it proceeds across the shelf and nearshore zone. Crossing wave rays imply infinite wave heights which obviously do not exist. The refraction depends upon accurate knowledge of bathymetry on the scale of the wavelength of the surface wave. Bathymetric data were obtained from the National Geophysical and Solar-Terrestrial Data Center, Boulder, Colorado, and averaged in an offshore grid size of approximately 200 meters. The wave refraction program of Dobson (1967) was adapted for this study.

Waves of 2-meter heights and 10-second periods were assumed to approach the island from the three indicated directions, and resulting refraction diagrams are shown in Figures 11 to 16 for the north and south halves of the island. Bathymetry is shown with a 5-meter contour interval. Several parallel, northeast-trending swales lie submerged off the island and are subparallel to the shoreline. Waves from the northeast approach with crests perpendicular to these features and are refracted in an extremely complicated way. Figures 11 to 16 should not be taken as indicative of actual ray paths, but they do show that waves approaching from the direction of the predominant storm interact with the bottom in ways that may induce transport patterns that are not generalized along the entire beach. Wave rays approaching from the east (Figs. 13 and 14) are somewhat less complicated because of their greater angle of attack to the offshore bathymetric features. Points of local energy concentration suggested by the convergence of wave rays indicate that longshore gradients in wave run-up are developed which transport material along the island in both directions. Similar suggestions of focusing are seen in the wave rays approaching from the southeast (Figs. 15 and 16), nearly perpendicular to the shoreline. Additional studies of nearshore currents and angles of wave approach along the beach are required to substantiate these indications.

(2) Northeaster, 3 November 1962. Most serious storms along the New Jersey coast are caused by low-pressure systems generating strong winds and steep waves from the north to east quadrant. Birkemeier (1980) has identified the 3 November storm as a "classic northeaster" which caused considerable erosion during the same year of the most devastating Great East Coast Storm. The record of 3 hourly wind readings made at Atlantic City showed that, since a previous northeast storm in late September, winds had remained mainly from the west with periods of northwest and southwest flow (Fig. 17). The September storm caused widespread erosion, but was not selected for analysis because the survey was apparently made before the storm was over, and the entire beach was not included in the survey. An early November storm occurred between 2 and 4 November after a 2-week period of offshore (seaward) winds. Maximum recorded winds of 50.4 kilometers per hour occurred on 3 November from the northeast. Since these were recorded at the inland site, wind velocity along the beach could be expected to be somewhat greater. Location of the profile lines relative to the beach structures known to exist at the time of the surveys is shown in Figure 4. The changes

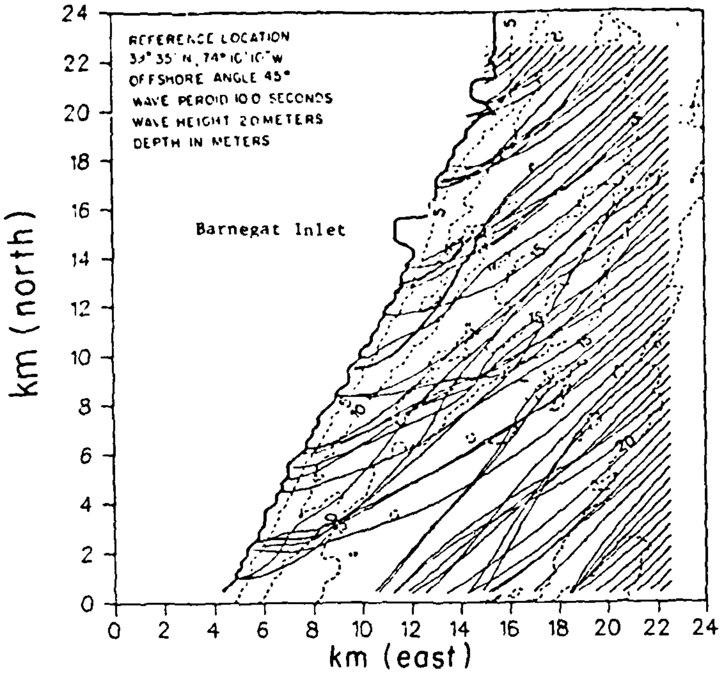


Figure 11. Wave refraction pattern for wave approaching the north half of Long Beach Island from the northeast.

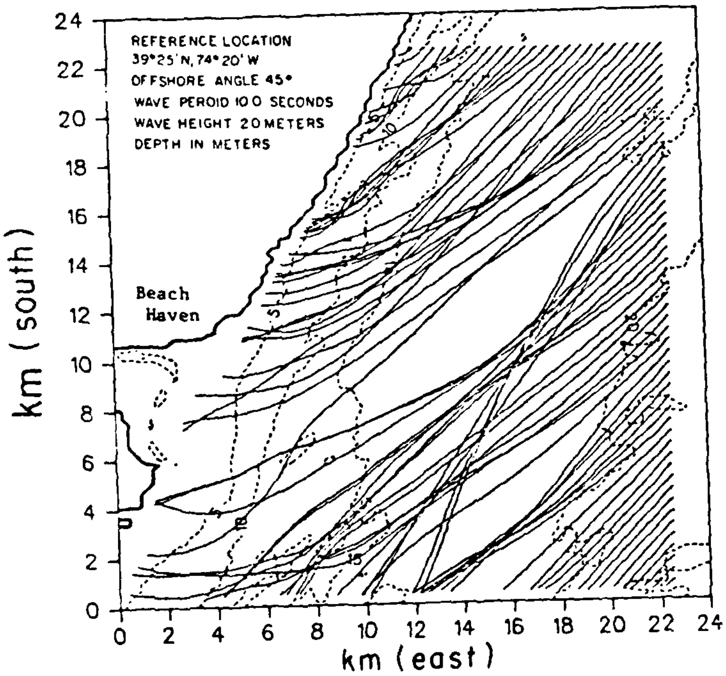


Figure 12. Wave refraction pattern for wave approaching the south half of Long Beach Island from the northeast.

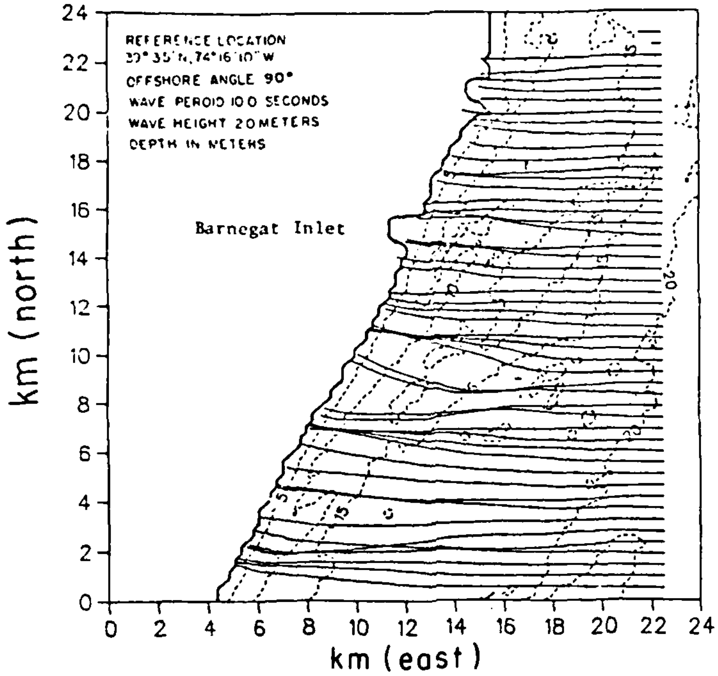


Figure 13. Wave refraction pattern for wave approaching the north half of Long Beach Island from the east.

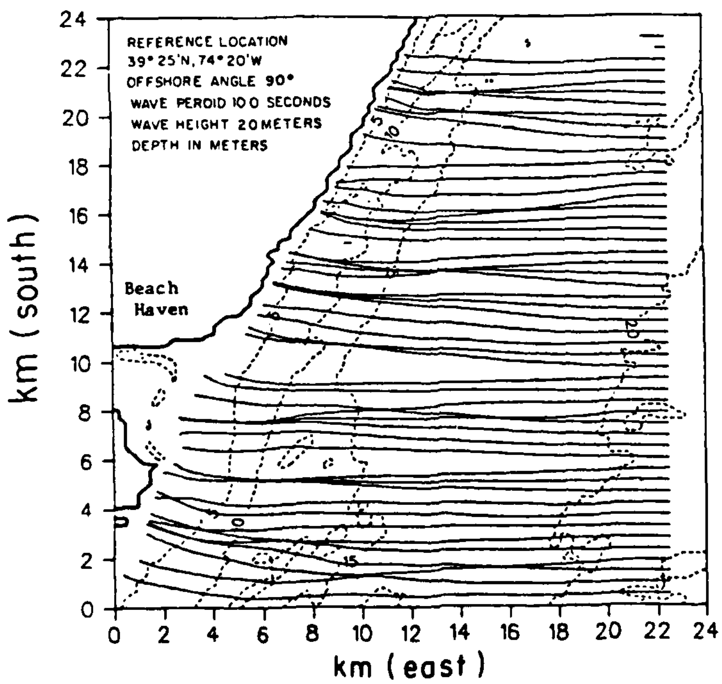


Figure 14. Wave refraction pattern for wave approaching the south half of Long Beach Island from the east.

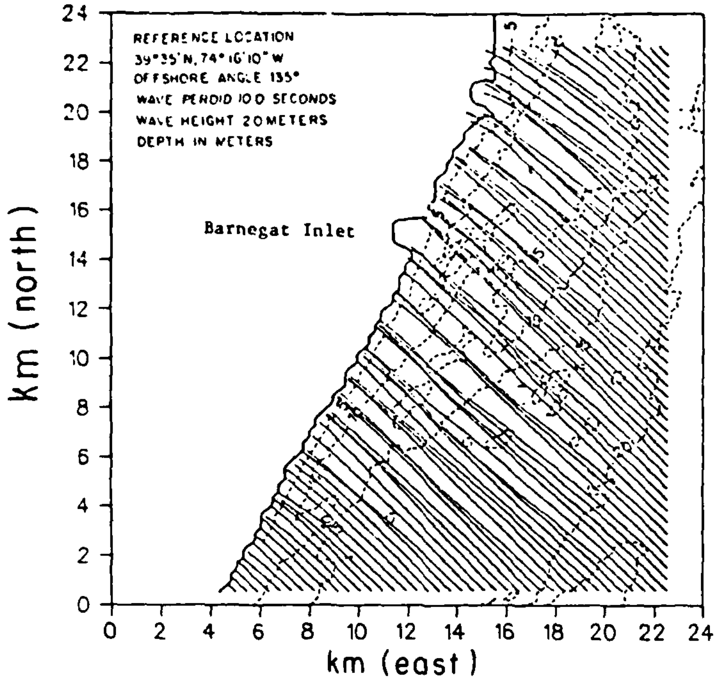


Figure 15. Wave refraction pattern for wave approaching the north half *of Long Beach Island from the southeast.*

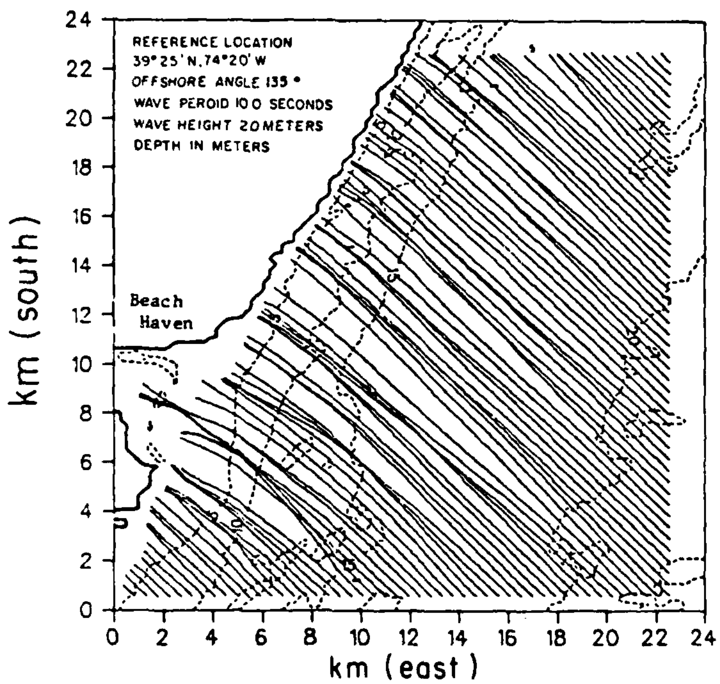


Figure 16. Wave refraction pattern for wave approaching the south half *of Long Beach Island from the southeast.*

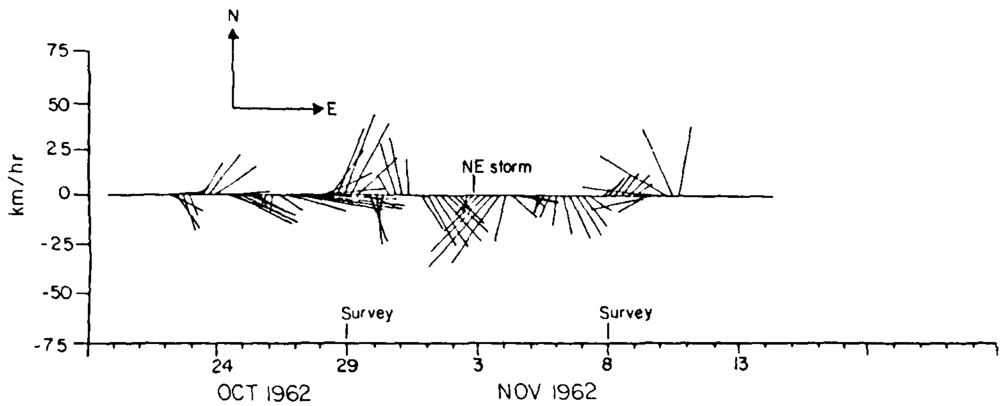


Figure 17. Wind diagram from data recorded at Atlantic City for parts of October and November 1962. Storm occurring 3 November was a "classic northeaster."

in above MSL sand volume which occurred during the interval are given in Table 3. Profile lines 3 to 14, 16, 17, and 20 were not protected by structures and experienced general erosion except at profile lines 5, 6, and 13. The latter three showed accretion with profile line 13 gaining 21.83 cubic meters per meter in sand volume while adjacent profile lines 12 and 14 suffered erosion. This was the greatest gain of any profile measured. Greatest losses occurred at profile lines 4, 10, and 16. The reasons for the extreme variability in volume change are not clear, but may be related to differential wave refraction and wave focusing.

(3) Winter Storm, 13 January 1964. A severe winter storm which developed strong winds from the northeast and north hit the New Jersey coast in January 1964 causing blizzard conditions, coastal erosion, and maximum high tide levels (Table 2). Winds recorded at Atlantic City during this period exceeded 72 kilometers per hour and were above 54 kilometers per hour for a 3-day period surrounding 12, 13, and 14 January (Fig. 18). Surveys of the beach were taken on 27 December 1963 and again on 15 January 1964 as the storm was abating. Erosion along the island was general except at profile line 21. Losses from profile lines 13, 18, and 19 were also anomalously small compared to the other profiles. Profile lines 18 and 19 are surrounded by older groins, but, since the groins recorded as built in 1964 were probably not yet in place, the reason for only a moderate loss at profile line 13 is not clear. Profile lines 1 to 4 at the north end of the island were apparently protected from the northeast waves by the Barnegat Inlet jetties (Fig. 2).

Table 3. Change in profile above MSL sand volume due to selected storms.

Line	Storm dates: 29 Oct.-8 Nov. 1962 (m^3/m)	27 Dec. 1962-15 Jan. 1963 (m^3/m)	23 Oct.-13 Nov. 1968 (m^3/m)	13-24 Mar. 1973 (m^3/m)
1	- 6.32	- 6.90	- 8.49	- 8.79
2	- 9.74	- 1.31	10.45	- 5.31
3	- 4.27	- 0.49	- 57.05	- 15.58
4	- 28.26	- 4.90	- 69.68	- 10.14
5	7.87	- 33.13	- 11.10	- 6.04
6	7.30	- 26.99	- 24.04	- 13.21
7	- 17.61	- 33.14	- 32.84	- 7.82
8	- 16.92	- 69.15	- 40.23	- 11.13
9	- 13.00	- 39.12	- 44.48	- 10.25
10	- 28.32	- 35.72	- 52.96	- 30.02
11	- 24.13	- 25.31	- 44.10	- 19.89
12	- 14.44	- 45.68	- 28.27	19.71
13	21.83	- 14.20	- 15.27	
14	- 1.21	- 29.40	- 26.15	- 3.71
15	2.96	- 44.45	- 34.29	- 12.15
16	- 27.15	- 26.44	1.34	- 3.40
17	- 21.79	- 19.03	- 26.55	- 4.12
18	- 17.37	- 12.58	- 14.18	19.97
19	- 0.02	- 14.77	- 15.97	- 11.92
20	- 21.26	- 41.08	2.36	- 11.84
21	10.86	9.71	2.18	43.55
22				- 19.44
23				- 1.23
24				- 17.02
25				- 14.78
26				- 3.18
27				9.70
28				- 6.26
29				8.39
30				0.50
31	No record			
32	- 20.52	- 15.35		
33				- 15.27

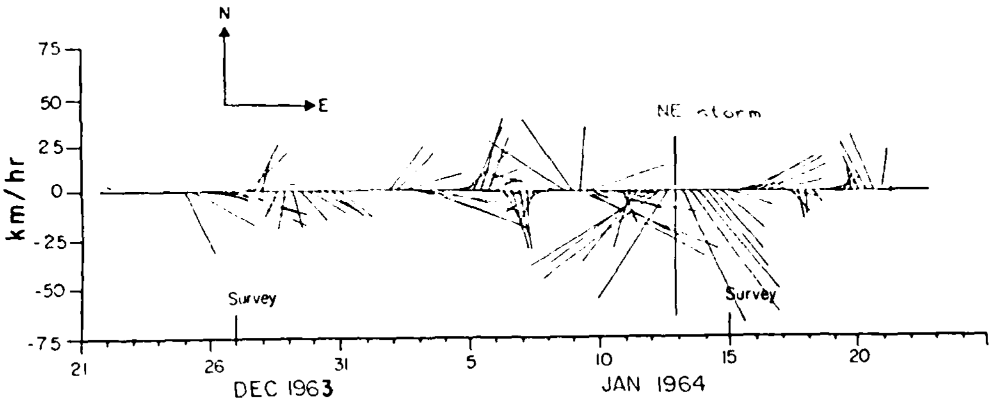


Figure 18. Wind diagram from data recorded at Atlantic City for December 1963 to January 1964, showing a northeast storm of 12 January and beach surveys. The gap from 30 December through 2 January is from a change in data format between 1963 and 1964.

(4) Northeast Storm, 12 November 1968. A short-lived, intense northeast storm with rain, snow, and wind caused erosion along the island during the survey interval from 23 October to 13 November 1968 (Fig. 19, Table 2). Erosion was widespread and severe, particularly north of the causeway and in segments to the south. Profile lines 1 and 2, enclosed by the jetties, showed erosion and accretion, respectively. Profile lines 3 and 4 suffered a severe loss of sand volume. This is in contrast to the response shown for the 13 January 1964 storm during which the profile lines were protected by the jetty. Since both generated high storm tides, differences in the wind patterns may account for the response. Winds during the January storm were from the west northwest, with the Atlantic beach face protected, on the 11th and began to develop strongly from the north-northeast, essentially parallel to shore, on the 12th. The winds remained strong but rotated counterclockwise blowing from the west on the 16th. This is the classic pattern of winds generated by a low-pressure system seaward of the island moving up the coast. A similar, though much less intense low on 10 November 1968 followed the same pattern as the 13 January 1964 storm. This storm, however, was followed by intense winds from the east-northeast in a direction nearly parallel to the south Barnegat Inlet jetty. This direction of wave approach combined with local refraction which may have focused the wave energy was apparently sufficient to cause a large amount of erosion to profile lines 3 and 4 as well as others. Profile lines 6 to 12 were also severely cut back during this event, as were profile lines 14 and 15. The south end of the island from profile line 15 showed great variability with profiles alternately eroding and accreting (Table 3). Most of the groins were in place during this period with the exception of the

structures built in 1969 around profile line 13. This profile again was not as severely affected as many others.

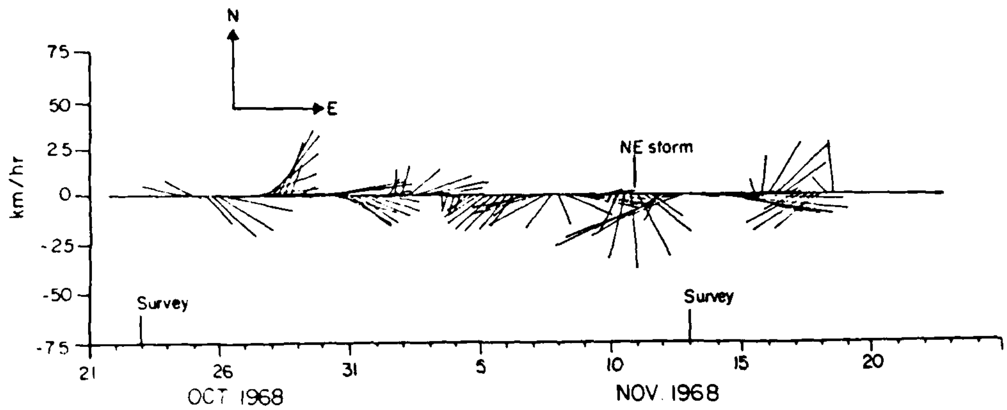


Figure 19. Diagram of winds recorded at Atlantic City, October-November 1968, showing northeast storm of 12 November and beach surveys.

(5) Spring Storm, 21 March 1973. This coastal storm differs from the previous three since the strongest winds from the south and southwest were caused by a low-pressure system centered west of the island that moved northward. These winds (Fig. 20), which reached intensities of 90 kilometers per hour, swung clockwise from south to northwest before abating. Winds from the north and northeast were then built up to intensities of 54 kilometers per hour during the 24 March survey. Though this is the only local storm during the survey interval, the high-velocity shifting winds made interpretations difficult. Erosion was widespread over the profiles though not as severe as during the winter northeast storms in spite of the high winds (Table 2). All profiles from profile line 11 north showed a loss in volume over this interval except the closely spaced profile lines 22 to 30 used for the groin field studies. South of profile line 11, the changes were extremely variable, ranging from a loss of 12.15 cubic meters per meter at profile line 15 to a marked gain of 43.55 cubic meters per meter at profile 21. Closely spaced profiles were being surveyed during this period. This data set is examined in Section IV-3.

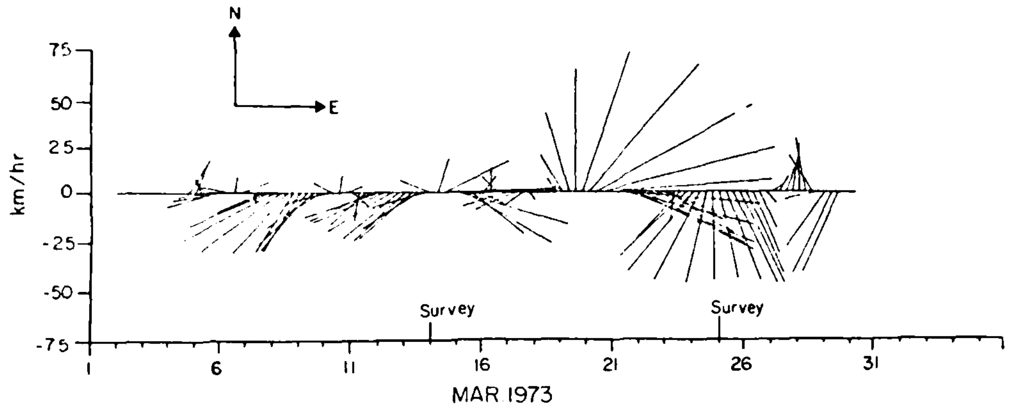


Figure 20. Diagram of winds recorded at Atlantic City, March 1973, showing strong southwest winds followed by a northeast storm. Erosion was not particularly severe on Long Beach Island.

b. Seasonal Changes. There is a definite seasonal cycle associated with the frequency and intensity of storms recorded at the Atlantic City reporting station (Fig. 10). West coast beaches respond to seasonal differences in wave climate caused by winter storms and exhibit a distinct bimodal character, being eroded with concave-upward profiles during winter and convex-upward profiles in summer (Shepard, 1950; Komar, 1976; Fox and Davis, 1978). The seasonal signal, if it exists, may also be detected in the empirical eigenfunction analysis. The seasonal cycles are clearly discernible in the second temporal eigenfunction of Aubrey (1978) from studies conducted on Torrey Pines Beach. If the record is demeaned, a strong seasonal signal should show in the first beach eigenfunction. The ideal record from which to extract the seasonal signal is one that is evenly and often sampled during all seasons. This requires at least monthly surveys of the profile sites. The sampling distribution for Long Beach Island was not evenly distributed as shown in Figure 4. Summer seasons, particularly during 1964-69, were infrequently sampled with some seasons missed completely. The other seasons were more frequently sampled since more beach changes were expected.

Several periods of frequent sampling were selected during 1963 and again in 1969-71. Eigenfunction analysis was performed on selected profiles not directly adjacent to groins to determine a seasonal variation. A definite seasonal variability is seen in the first temporal eigenfunction (Fig. 21) with mean removed. The trend is not as marked as on west coast beaches. Profile lines 5 and 11 show a low at the beginning of 1970 and a rise in the midyear. A similar pattern is seen in 1971. Profiles 14 and 16 do not show as marked a trend and appear to be out of phase with the other profile lines. Whether this is an opposite seasonal trend or the result of a sign ambiguity in the eigenfunction analysis is under study. However, the seasonal cycle can be seen in

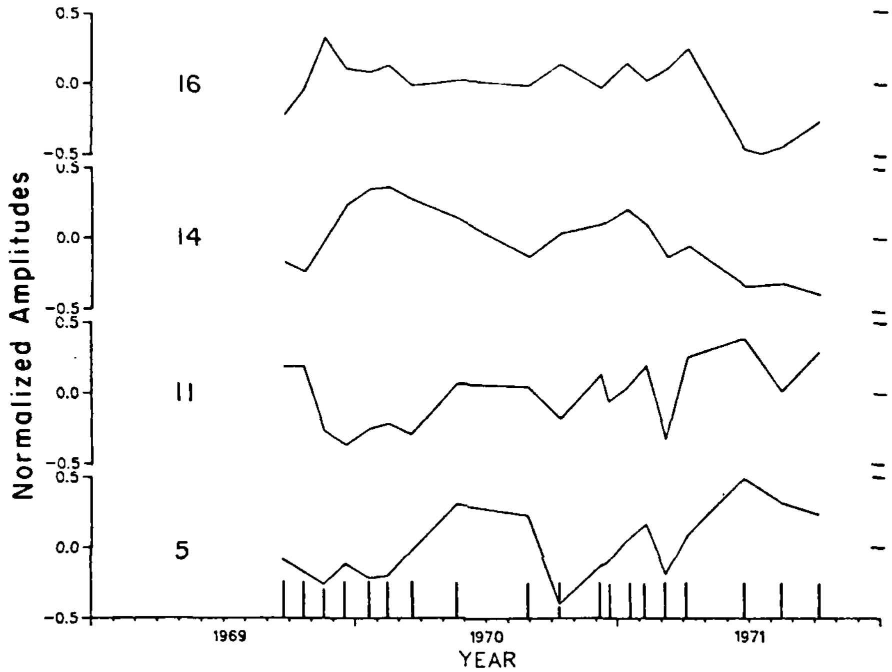


Figure 21. First temporal eigenfunction, mean removed, for profile lines 5, 11, 14, and 16. Profile lines were selected to be as evenly spaced as possible by season and to minimize groin effects.

each of the selected profile lines. Previous studies of MSL shoreline and beach volume changes had concluded that a well-defined seasonal response was not found on Long Beach Island (Everts and Czerniak, 1977). Goldsmith, Farrell, and Goldsmith (1974) also concluded that during a 1-year study (1973-74) of biweekly profile measurements at the southern end of Long Beach Island there was no overall seasonal trend. These data were not analyzed using empirical eigenfunctions. The fact that the seasonal signal can be shown here by a quantitative, objective method emphasizes the value of the technique applied to well-planned data sets.

c. Long-Term Changes. One of the goals of the BEP was to determine the long-term trend of beach development at the various evaluation sites. This is important from the standpoint of planning the beach preservation strategy as well as assessing the effectiveness of existing beach protection measures. A study of long-term shoreline changes along the mid-Atlantic coast, from Beach Haven Inlet to Shackleford Bank, North Carolina, was recently completed by Dolan, et al. (1979). Air photos, some dating back to 1930, were used to determine the rate of shoreline change of the barrier islands and headlands along the 630-kilometer section of coastline. Erosion rates averaged 1.5 meters per year, but were extremely variable with the greatest erosion rates occurring on unstructured, small barrier islands. Accretion was observed in developed areas near the north end of the study area where beaches are maintained by groins, jetties, and beach nourishment. The results of Dolan, et al. (1979) should not be extrapolated to Long Beach Island, but they do indicate that long-term erosion is not a necessary and general condition in the adjacent area to the south.

Trends in the change of MSL shoreline position and volume over the period of the study are apparent from the figures in Appendixes B and E. A qualitative indication of the trend in the above parameters as well as that apparent from the first beach eigenfunction of the total and demeaned data set is shown in Table 4. Linear regression was not used because the resulting slope implies a degree of precision and predictability that is unwarranted by these data. The volume change shows that only one profile line (21) showed a decrease over the study period. All of the other profiles indicated a volume increasing with time or no change. The first eigenfunction of the demeaned data is particularly well correlated with the rate of volume change. Comparison of the trends shows a one to one correspondence in most cases. Profile lines 17 and 18 indicate a negative correlation between the first demeaned beach eigenfunction and rate of volume change. This is due to a sign ambiguity which exists in the numerical solution for the eigenfunctions and eigenvalues. It may be resolved by integrating the product of the first temporal eigenfunction and the first spatial eigenfunction over the length of the profile. No long-term trends were obtainable from the 1-year record of profiles within the groin field (profile lines 21 to 30). Profile line 7, in that region, showed no trend in the rate of volume change. This analysis indicates that, in spite of large variability in above MSL volume, most of the profiles along Long Beach Island are stable and many are accreting over the term of the study.

Profile measurements were extended offshore to a depth of approximately 10 meters in 1937, 1955, 1963, and 1965. Detailed soundings were made in Barnegat and Beach Haven Inlets and, during the latter 3 years, were relatively evenly spaced along the beaches as well (Fig. 4). Many of the offshore

Table 4. Long-term trend in beach profile as indicated by MSL sand volume change, MSL shoreline change, and first spatial eigenfunction.[1]

Profile line	Volume change	MSL shoreline change	First eigenfunction mean included	First eigenfunction demeaned
1	0 (large variability)	+ (slight)	0	+ (slight), variable
2	0 (large variability)	+ (slight)	0	+ (slight), variable
3	0 (large variability)	0	+ (slight)	5-year cycle
4	0	0	0	0
5	0	+ (to 1969), - (after)	0	0
6	0	0	+	+
7	0	0	0	+
8	0	0	0	+
9	0	- (slight)	0	0
10	0	0	0	0
11	0	- (slight)	0	0
12	0	0	0	0
13	0	0	0	0
14	+ (steady)	0	+	+ (marked)
15	0	+ (to 1967), 0 (after)	+	+ (to 1967), 0 (after)
16	+ (slight)	0 (to 1970), - (after)	+	+
17	+ (to 1969), 0 (after)	0	0	- (to 1969), 0 (after)
18		Great variability	+ (steady)	-
19	+	+ (to 1965), 0 (after)	+	+
20	+ (slight)	0	+	+
21	- (rapid), 0 (since 1967)	Extreme variability	0	- (to 1967), 0 (after)

[1]Change indicated by + increase, - decrease, and 0 no change.

profile locations corresponded to those used for the beach surveys. Profile measurements were made at different times of year (e.g., the 1955 measurements were "Feb.-Sept.," 1963 - "Oct.," and 1965 - "Sept."). It is not known what the normal variability of the profiles is, so comparisons must be interpreted with caution. The profile lines obtained from the Philadelphia District were integrated from the MSL position to about the -10-meter MLW contour in order to compare the change in offshore sand accumulation. The integration was carried out at 3-meter depth intervals in order to compare the variability at the shallow intermediate and deep region. The change in area under each profile line as well as the net area change over the interval were computed. During the interval 1955-63, half of the profiles gained sand while half showed no change (profile 69) or lost sand. Much of the gain over this interval took place in profiles 72 and 73. A detailed look at the profiles showed a series of offshore bars which were nearly in phase between 1963 and 1965 but which were displaced landward more than 120 meters in 1955. Since similar sand waves were in phase during all three profiles at other locations, it is probable that the displacement was caused by a systematic error in the measurement. Most of the variability in the other profile lines took place near the shore at depths of -2 meters MLW or less. It is possible that the large increase in offshore sand volume between 1955 and 1963 is the result of erosion from the beach during the March 1962 storm.

Many of the profiles showed bars nearshore before grading smoothly at a slope of about 1:20 seaward to the -6-meter depth. The slope then abruptly decreased to about 1:200 or less. Offshore features with relief less than the contour interval of the bathymetric chart (6 feet) do not appear on the charts. Profile 58, however, shows three sand waves with wavelengths of about 700 meters and amplitudes of about 1.5 meters present and in phase in the 1963-65 profiles. Much of the feature was also apparent in 1955.

Though a firm conclusion is not possible from these data, the offshore features, such as bars and shoals, at depths of 6 meters and beyond appear to be stable, suggesting that most of the variability in sand volume takes place in the shallow beach face at depths less than 3 meters.

2. Spatial Variability.

Longshore and onshore-offshore variations in beach morphology were examined to determine systematic spatial variability including effects due to the proximity of profile lines to shore protection structures. Total volume calculations are often used as an indicator of the direction and degree of beach erosion or accretion. Calculations based on these profiles are shown as volume changes above the MSL shoreline in Appendix D, and the method of calculation is explained in Section 3. The amount of beach (sand) volume depends upon the offshore distance to which the calculations extend. If the distance is short, the recorded changes may have occurred only in the berm while very long profiles may show no net change because onshore accretion is compensated by offshore erosion. The existence of nodal points in the profiles representing onshore-offshore sediment exchanges (e.g., Aubrey, 1979) emphasizes the importance of selecting the proper offshore distance for volume calculation, especially when comparing results between different profile lines. Since the eigenfunction analysis retains spatial covariance information, volume changes can be readily calculated to any offshore distance, with the nodal points well delineated.

Changes in the MSL shoreline have been calculated as discussed in Section 3, and are graphed for each profile line in Appendix B. This parameter is sometimes invoked as an indicator of seasonal beach changes and, indeed, may show persistent long-term trends. Short-term changes in MSL intercept may also be caused by migrating rhythmic topographic features, such as cusps or rip channels, and may be incorrectly interpreted unless closely spaced profile lines are obtained.

The major disadvantage of the eigenfunction technique is that the results may be more obscure than simple volume calculations or MSL intercept plots. Beach changes may be regular and predictable, but the eigenfunctions do not always have simple physical interpretations. In much work to date on west coast beaches, the eigenfunctions have had physical analogues (e.g., Winant, Inman, and Nordstrom, 1975; Winant and Aubrey, 1976; Aubrey, 1979). Eigenfunction analyses on other beaches have shown similar characteristic shapes.

The alongshore variability of the beach profile measurements has been investigated by plotting the mean square value (MSV) and variance (VAR) of each line 1 through 21. No consistent trends emerged from this analysis except for the plot of total VAR of the demeaned data (Fig. 22). Though the conclusion must remain tentative, since each profile line did not contain the same number of points nor extend the same distance offshore, there is a trend of increasing variability from north to south along the island. The reason for the greater variability (if it is real) may be associated with more active transport processes occurring along the unstructured Beach Haven Inlet.

The alongshore variation was also examined to see if differences existed between profiles relatively evenly spaced between groins (profile lines 5, 7, 9, 12, 13, 14, 16, 20) and those closely adjacent to groins (profile lines 4, 6, 8, 10, 11, 15, 17, 18). No marked difference was discernible from these data. The eigenfunction analysis did not differentiate between beach responses to structural control simply on the basis of gross characteristics such as MSV, VAR, and percentage of VAR accounted for by the first eigenfunction. Examination of the closely spaced profile lines within the groin field (profile lines 22 to 30) will be discussed later in this report.

The demeaned spatial profiles demonstrate two major relationships between the first and second eigenfunctions (Fig. 23,a). The first group of profile lines (1, 2, 4, 5, 6, 10, 11, 12, 14 to 17, 19, 20) is the dominant form and has the second eigenfunction in phase spatially with the first on the beach backshore, and out of phase in the foreshore. For a positive temporal second eigenfunction $[c_2(t)]$, the second eigenfunction shows an enhanced buildup in the backshore and a reduced buildup in the foreshore. For a negative weighting for $c_2(t)$, the backshore erodes while the foreshore accretes. Since the second eigenfunction is always less dominant than the first, this effect is second order.

The second profile grouping (profile lines 7, 8, 9, 13, 18) is shown in Figure 23(b). The first eigenfunction has a spatial sign difference between the foreshore and backshore, while the second eigenfunction has no sign difference. This eigenfunction representation shows the same result as the previous grouping; a positive weighting on the second function, $c_2(t)$, indicates accretion on the backshore and erosion on the foreshore, while a negative $c_2(t)$

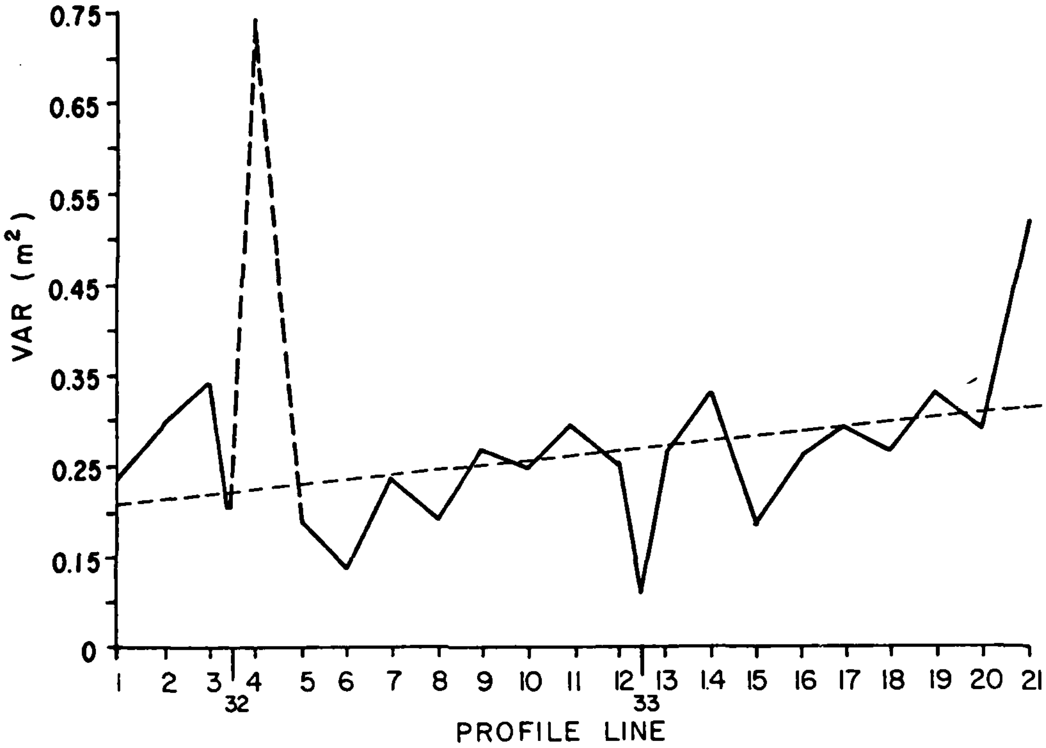
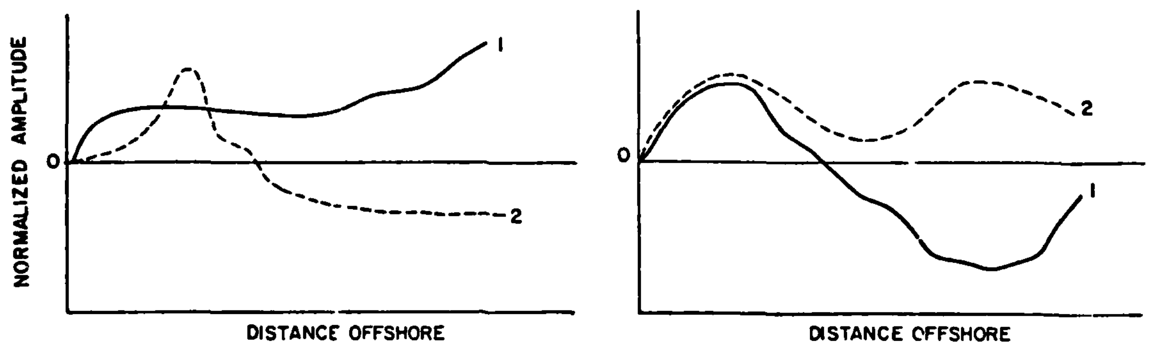


Figure 22. Total variance from empirical eigenfunction analysis at each profile line 1 to 21, 32 and 33.



(a Characteristic of profile lines 1, 2, 4, 5, 6, 10, 11, 12, 14 to 17, 19, and 20. Spatial functions are in phase on backshore while second function is negative offshore.

(b Characteristic of profile lines 7, 8, 9, 13, and 18. Spatial functions are in phase on backshore while first function is negative offshore.

Figure 23. Characteristic shapes of the demeaned beach eigenfunctions for Long Beach Island. The first two spatial eigenfunctions are shown.

indicates erosion on the backshore and accretion on the foreshore. The primary difference in the two eigenfunction representations is the negative covariance between the foreshore and backshore in the first eigenfunction for the second grouping and positive covariance for the first set of profiles. No physical explanation for the different beach response for these two groupings is apparent.

For the mean beach eigenfunction (those with the mean profile retained), the first eigenfunction is analogous to a mean beach profile. There is considerable variation in the beach slopes for the different profiles, but the eigenfunction analysis shows no systematic relationship between these profile slopes and proximity to beach structures.

3. Groin Field Studies.

Closely spaced profiles were taken along a section of beach protected by evenly spaced groins between the towns of Loveladies and Harvey Cedars (profile lines 22 to 30). Ten surveys of each profile line were made over a period of nearly 1 year (28 Aug. 1972 to 11 June 1973). Each set of parallel profile lines, three within each groin compartment, was arranged with the center profiles (23, 26, 29) spaced equally between the groins and the other lines two-thirds of the remaining distance to the groin on either side. Changes, between surveys, in MSL position and sand volume at each profile line have been prepared in Appendixes B and D , respectively. The changes within the groin field between survey dates are shown in Figure 24 for MSL position and Figure 25 for above MSL sand volume. Comparison of Figures 24 and 25 shows that the above MSL volume change is highly correlated with the MSL position change.

Visual wave observations were made once each day in the vicinity of Harvey Cedars during much of the period of these surveys. These data are not suitable for quantitative determinations of transport rate and direction because direction estimates are imprecise and data are not complete. The visual data were reviewed, however, for qualitative estimates of transport during each measurement interval.

a. 29 Aug. - 16 Oct. 1972. Few visual wave observations were taken during this interval and none are available after 21 September. It is obvious, however, that each groin cell responded similarly to processes occurring before the 16 October survey. The north side of each groin cell (A, B, C in Figs. 24 and 25) shows general erosion while the south side shows accretion, indicating longshore transport from north to south. The net gain in above MSL sand volume in each groin cell indicates that sand must have been contributed to the groin field from offshore or updrift. Tropical storm Carrie occurred shortly after 29 August, but its influence on the measured beach changes is unknown.

b. 16 Oct. - 4 Dec. 1972. The pattern of change in above MSL volume and MSL position reversed in all groin cells during this interval. Erosion occurred at the south end of each cell with accretion at the north end. No storms are recorded during the interval (Table 2) but visual wave observations are available for 30 of the 49 days. Most of these record waves approaching from directly offshore. Two days prior to the survey, however, waves were observed breaking at an angle from 5° to 30° to the shoreline, approaching from the south. These would have induced northward transport and may be responsible for the observed pattern of change.

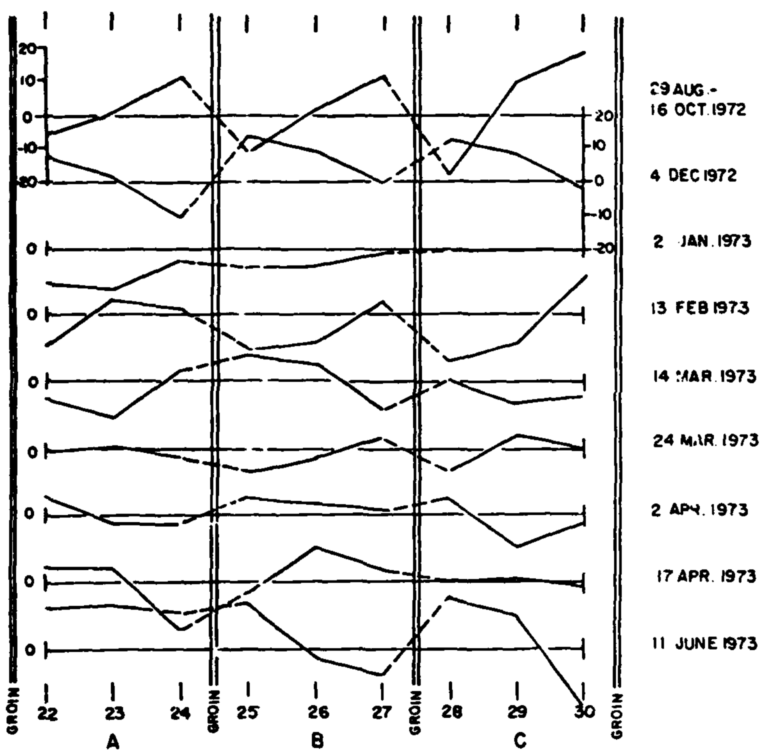


Figure 24. Change in distance to MSL intercept (m) between surveys along closely spaced profile lines 22 to 30.

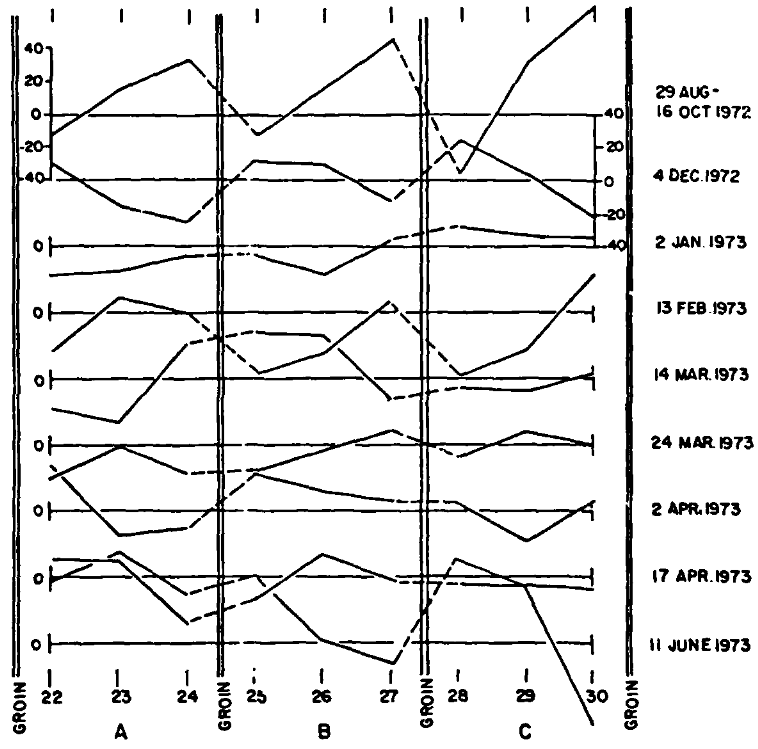


Figure 25. Change in above MSL sand volume (m^3/m) between surveys along closely spaced profile lines 22 to 30.

c. 4 Dec. 1972 - 2 Jan. 1973. Visual wave observations, available for 15 days of the 27-day interval, indicate that waves arrived oblique to the shoreline more than half of the time reported. Height and number of observations indicate transport from north to south was predominant. The MSL shoreline receded at all groin cells during the interval with slightly less erosion at the south end of two of the cells. The MSL shoreline position changed little in cell C while the above MSL sand volume increased in the same cell indicating berm building over the interval.

d. 2 Jan. - 13 Feb. 1973. A pattern of change was reestablished in the groin cells during this interval indicating transport from north to south at the time of measurement. Visual wave observations were made for 27 days of the 43-day period. Only 10 of these are indicated as providing an oblique approach (6 from north, 4 from south). Observations from the Atlantic City recording station show that winds were from the northwest during much of the interval with several periods of southerly winds (Fig. 26). The latter caused waves from the southwest. A northeast storm occurred about 9 February causing the largest waves of the interval (1.25 to 1.50 meters) from that direction and was probably the important influence on the observed changes. The measured beach topography for each of these dates is shown in Figure 27(a) and (b) with the regions of erosion and deposition shown in (c). The topography and change directly adjacent to the groins have been estimated. The map of the difference between the two topographies shows the pattern of erosion. Each cell eroded on the northern side and accreted on the southern side. There was a net loss in sand volume during the interval suggesting that sand was moved offshore or elsewhere out of the range of the survey measurements.

e. 13 Feb. - 17 Apr. 1973. Beach changes during these four intervals showed no particular pattern by groin cell attributable to available wave and wind data. Visual wave observations, recorded daily for more than 90 percent of the interval, suggest that the predominant transport is from north to south.

f. 17 Apr. - 11 June 1973. Almost half (25 of 54) of the visual wave observations during this interval indicate the predominant transport direction should be toward the north, and this is reflected in the pattern of change observed in the groin field. The north side of each cell accreted while the south side eroded. There was a net gain in sand volume throughout the groin field with cell A showing general accretion from side to side.

The pattern of change in each groin cell for the entire study interval (28 Aug. 1972 to 11 June 1973) is shown in Figure 28(a) and (b) for MSL shoreline and above MSL volume, respectively. They compare the mean change in each groin cell with the net change for each profile. The data are not sufficient for statistical tests of significant difference; however, the standard deviation (sd) about the mean is indicated on the southernmost profile line of each cell (i.e., profile lines 24, 27, 30). The fact that the same pattern of change is shown in each groin cell indicates that the measured response is real and that the groins have influenced the littoral transport process. The mean change in each cell was greater than zero indicating that, over the period of measurement, the beach experienced a net accretion. The mean increase in above MSL volume, for instance, was greatest in cell B (28 cubic meters per meter) and least in cell A (5 cubic meters per meter). The mean increase in cell C was 22 cubic

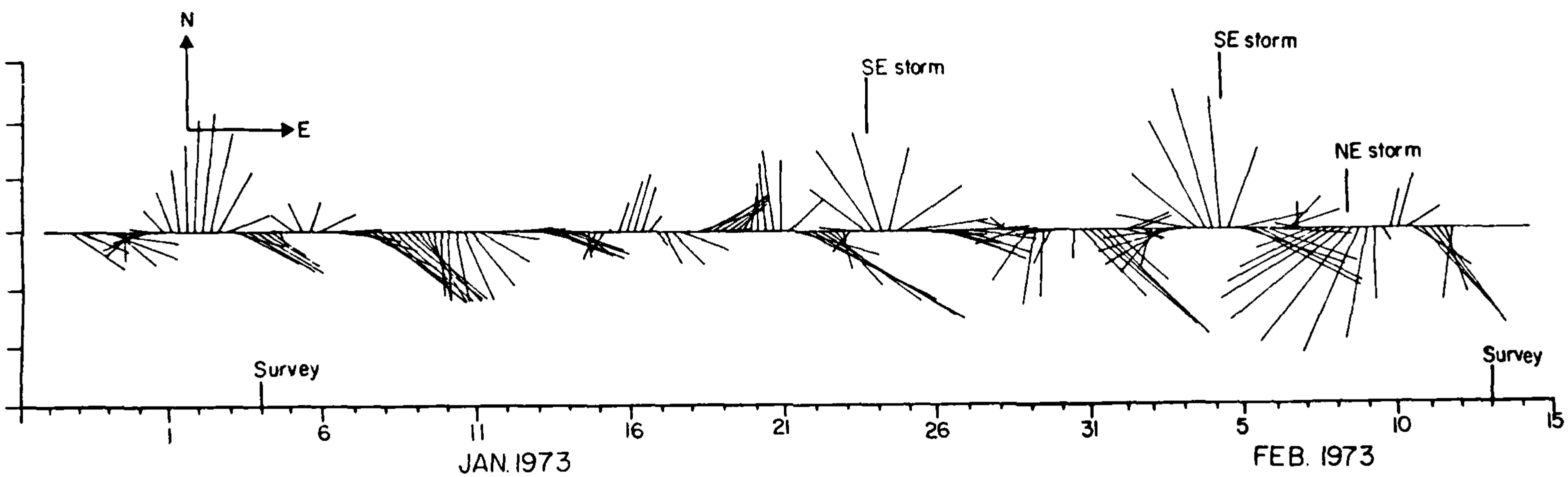


Figure 26. Atlantic City wind record for January-February 1973 showing periods of strong southeast and northeast winds. Resulting beach changes are shown in Figure 27.

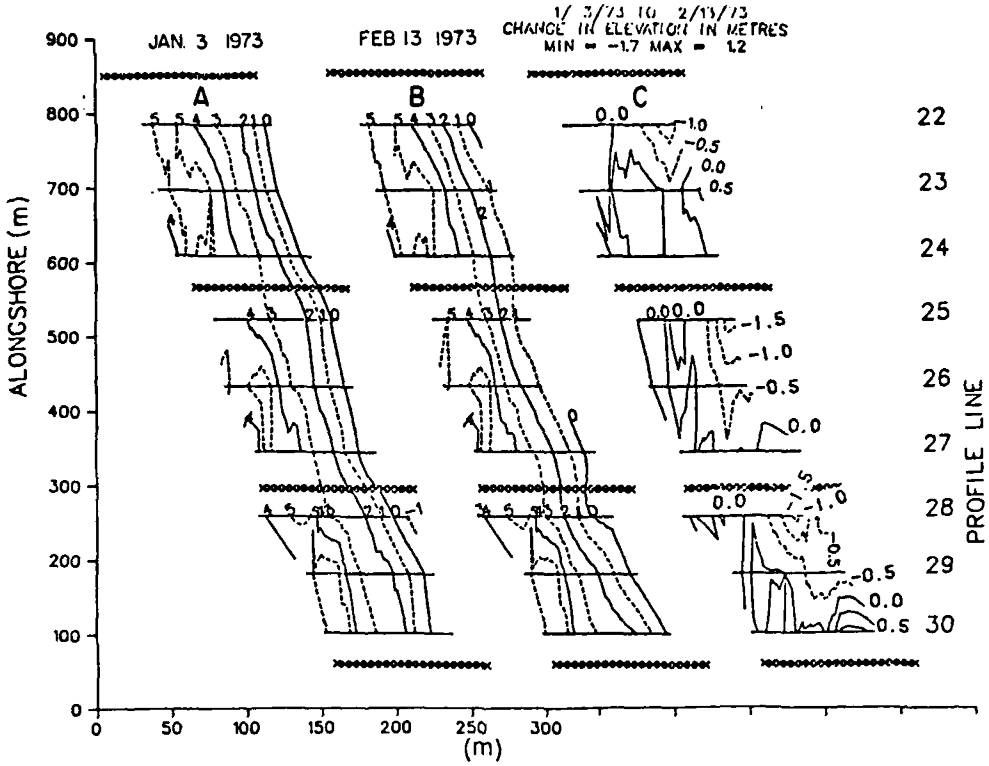


Figure 27. Contoured beach topography for surveys taken 2 January and 13 February 1973 and the contoured difference between surveys. The contour between the groin and the profile line was estimated.

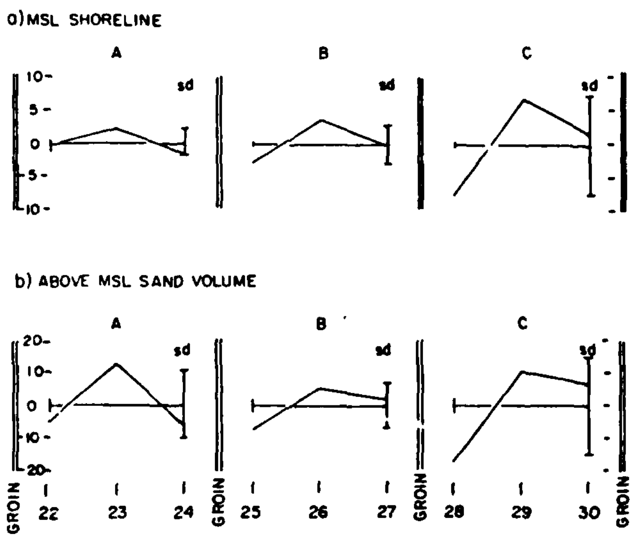


Figure 28. Net change in MSL shoreline (m) and unit volume (m^3/m) from 29 August 1972 to 11 June 1973 for each profile line with mean change in each groin cell removed. Standard deviation (sd) of each mean is shown at the right of each cell.

meters per meter. The reason for the large difference between cell A and the two other cells is not known. Each cell shows a change in above MSL volume at the north side which is negative relative to the mean while the south side of the cell is less than the mean but positive in the two southern cells. The latter suggests net transport toward the south while cell A suggests a slight net transport toward the north. Rates of transport cannot be determined from the available data. This section of beach may be the site of a local nodal point in sand transport direction. Similar, closely spaced profile line studies in groin cells to the north would be necessary to confirm this possibility. The variability in the change within each groin cell indicates that repeated measurements of single profile lines placed between adjacent closely spaced groins may not accurately reflect the change within that cell. Figure 28 indicates that profile lines located in the middle of a groin cell would show a net change greater than the mean, while profile lines near the groins would show a lesser or negative rate of change. At least three profile lines should be located within a groin cell in order to resolve the direction of net transport and amount of change. The distribution of change within a cell also implies that regression estimates of the rate of change in MSL shoreline or above MSL sand volume from the available data from other profile lines would not provide a meaningful indication of beach development.

V. DISCUSSION

1. Profile Changes.

The profile lines along the Long Beach Island beaches are characterized by a high degree of variability that occurs on a number of time and space scales. The empirical eigenfunction analysis has shown (Fig. 22) that the variability generally increases from the north end of the island, which has been stabilized by the Barnegat Inlet jetties, toward the unstructured Beach Haven Inlet. The profile lines between these two extremes have, with the exception of the groin field studies, been placed along the beach with little regard for proximity or relationship to the groins. The beach variability prior to groin construction is unknown so it is not possible to assess the effect the structures have had on this factor. A long-term study on an unstructured beach in a similar environmental setting would provide a useful contrast of processes. Island Beach State Park, north of Barnegat Inlet, may provide a reasonable candidate site for a comparative study.

The erosion or accretion rate of the Long Beach Island shoreline remains unresolved. Linear regression analysis was used on profile lines 1 to 21 to estimate the rate and direction of change in the MSL shoreline position. All except five of the profile lines (7, 8, 9, 11, 21) showed a positive correlation between the MSL shoreline and time. The mean accretion rate of 0.56 meter per year indicates that the beaches along the island are building seaward even in the period of long-term sea level rise. The method of Weggel (1979) was used to estimate the expected erosion rate caused by the latter. This estimate is 0.68 meter per year. Both of these must be treated with caution since they are based on assumptions that may not be valid for the Long Beach Island system.

The high variability in the MSL position and sand volume may also be related to the position of the profile lines relative to offshore features, such as sandbars and the shoreface-connected shoals. The wave refraction diagrams (Figs. 11 to 16) show that the shoals refract simple waves approaching from, for instance, the northeast in complicated ways. Measurements of flow over the shoals and the longshore variation in wave characteristics may be necessary to adequately resolve this question.

The available data were evaluated to determine the direction and rate of net longshore transport. Neither can be determined with certainty using these data, but strong arguments can be made for a net southerly transport, at least south of profile line 24. Most severe storms arrive from the east or northeast, generating longshore currents and oblique waves which transport material from north to south. Clear evidence of this exists in the single year study of the closely spaced profile lines. The unfortunate locations of other single profile lines make direct confirmation of this phenomenon from profile line evidence impossible. Reversals in transport direction have been shown to exist, and evidence of a possible node in the transport is shown along closely spaced profile lines 22, 23, and 24.

Calculations of the rate of littoral transport are based upon a linear relationship between the volume transport rate and the longshore component of wave energy flux evaluated at the breaker zone, $P_{\ell s}$, (U.S. Army, Corps of Engineers, Coastal Engineering Research Center, 1977). The shallow-water breaking criterion and solitary wave theory can be used to show that $P_{\ell s}$ is quite sensitive to wave height and breaker angle. Relatively small errors in these values cause large errors in $P_{\ell s}$. Visual estimates of breaker conditions, available for part of the study, indicated a predominance of normal wave incidence with this zone defined as waves approaching from directly offshore to 5° on either side. Transport may, therefore, have been in either direction. The transport rate relationship to energy flux is based upon field measurements on plane, unstructured beaches and does not account for effects of groins, inlets, tidal currents or offshore topography. The uncertainty caused by these factors makes quantitative estimates of the transport rate meaningless.

2. Civil Engineering Implications.

The Long Beach Island beaches were identified as experiencing "critical erosion" (U.S. Army Engineer Division, North Atlantic, 1971). The rate of erosion and reason for this designation, however, were not specified. Evaluation of these BEP data indicates that the beaches are accreting or remaining stable at several locations and in spite of an expected erosion trend induced by sea level rise. Several of the profile lines show a marked increase in sand volume after groin construction began in 1964. Profile lines 14, 16, and 17 increased in sand volume and have remained relatively constant since about 1968 (App. D). Whether this trend is a result of groin construction or a natural beach cycle is unknown. Profile line 21 at the south end of Long Beach Island is near the last structure before the wildlife refuge and has shown a marked erosion trend over the course of the study which may be related to the sand trapping by the groins to the north. This conclusion must remain tentative since no profile data are available prior to the BEP.

The seasonal cycles in the beach profiles shown by the empirical eigenfunction analysis and the closely spaced profile lines have implications for beach-fill operations and the location of feeder beaches. Though net transport is toward the south, south of profile line 24, this region may be the site of a local transport node with the net drift north of this region toward the north. A feeder beach located north of the node would not supply sand to the southern beaches. Sand dredged from Barnegat Inlet during the summer of 1979 and placed on the beaches in the vicinity of profile line 3 was probably transported northward or offshore where it reentered the inlet system rather than nourished the southern beaches. Other nodal points, either temporary or permanent, may exist along the island. Predicting their location is, at present, not possible. Closely spaced profile lines placed within groin cells would be necessary to determine their position and motion. Studies on the effectiveness of the beach fill and its direction of transport are being conducted (Ashley, Halsey, and Farrell, 1980).

The profile envelopes (App. E) show that the sweep zones of the beach profiles have been considerable over the period of study. Variations of as much as 4 meters are not unusual in the region of the MSL intercept. This vertical excursion of the profile must be taken into account in the design of pipelines, coastal structures, and other protection measures.

Limitations in the amount of information obtainable from the Long Beach Island data set may be overcome in future studies by alterations in the sampling design which take into account the beach structures, offshore topography, nearshore below MSL changes, waves, currents and the anticipated methods of data analysis. The closely spaced profile line studies show that beach changes within a groin cell cannot be determined with fewer than three profile lines per cell. Comparative analysis may be done with this data set and that from Westhampton, New York (DeWall, 1979) to provide additional insight into the dynamics of groin cells. The distribution of profile line measurements depends upon the scale of the processes under consideration and may require that pilot studies be carried out for at least one season before the final design is adopted. It is likely that each beach environment will require a somewhat different approach. The offshore topography must be considered when laying out the profile lines. The linear shoals off of Long Beach Island certainly affect the distribution of sand transport by causing differential wave refraction. Profile lines should be extended farther offshore than the -2-foot MSL position as was done in this study. The depth of measurement depends upon the wave regime, currents, expected depth of sediment movement and the resources of the measurement team, but should extend beyond the breaker zone. The spacing and timing of profile line measurement again depend upon the scales of the processes but also on the expected method of analysis. Statistical methods including eigenfunction analysis work best when data are evenly distributed in time and space. Sets of closely spaced profile lines laid out in selected groin fields along the island would have been appropriate for Long Beach Island. The frequency of surveys depends upon the expected total length of the time series and the resources available. Monitoring studies should last several years to obtain adequate statistics of seasonal variability with surveys taken each month for longer studies and twice each month for short studies. Beach changes during storms are highly nonlinear and can be extreme in a short amount of time. These events should be monitored individually. Wave information is best obtained by a reliable gage giving height and direction. Adequate devices are generally not available or are very expensive. Well-trained observers

can be substituted for machinery for much of the study, but periods of wave data may be closely correlated with beach changes at selected times in the study period. Offshore surveys to depths of 10 meters should be made twice each year to provide a total record of nearshore change.

VI. SUMMARY

A total of 2,158 profile surveys were taken at 32 profile line locations along Long Beach Island, New Jersey, from 26 September 1962 to 12 June 1973. These surveys included closely spaced measurements taken at nine locations within three adjacent groin cells for a period of nearly 1 year (August 1972 to June 1973). The data were checked and verified by CERC personnel and subjected to a number of computer analysis techniques to obtain changes between surveys in above MSL unit volume, change in profile area, change in MSL shoreline intercept, profile envelopes, and linear regression trends. Additional processing was done using empirical eigenfunctions. The temporal and spatial changes of the profile lines were related to environmental process variables such as wind, waves, and storms.

Seventy-seven storm events were identified over the study period from historical records. Beach changes which could be related to four individual storms were selected for detailed analysis. The most severe erosion of these four storms (between 23 October and 13 November 1968) caused a recession of the MSL shoreline of about 22 meters at profile line 4 where the volumetric change was nearly 10 cubic meters per meter. In spite of the generally severe erosion, several of the profile lines accreted during the interval emphasizing the extreme variability which was a general characteristic of the beach changes during the study. This means that longtime series studies are required to obtain statistical data on general beach trends.

Detailed studies within three groin cells showed that at least three profile lines within a groin cell are necessary to determine the net erosion trend and transport direction. The change in beach volume or MSL intercept shown by a single profile line in a groin cell does not necessarily represent a characteristic change for that cell. Distance weighted volume calculations made from single profiles along a structured beach, therefore, are of questionable value. The closely spaced profiles and analysis of storm directions strongly support previous conclusions of a net southward littoral transport at least south of profile line 24. Evidence for a nodal area exists in that region.

Regression analysis of the MSL intercept with time showed most profile lines accreting. The maximum and minimum accretion values were 2.3 and 0.24 meter per year at profile lines 19 and 10, respectively. The maximum erosion occurred at profile line 21 which is receding at an annual rate of more than 5 meters per year. The low R^2 value for most of the regression equations emphasizes the variability of the individual profile lines. Profile line 21, however, has shown a persistent erosion trend over the course of the study. There is no discernible pattern to the regression values along the beaches. These rates must be treated with caution since they imply a degree of predictability to the long-term trend which does not exist.

Though transport is toward the south along most of the beach, the closely spaced profile lines show shifts in the beach pattern that indicate reversals

when waves arrive from the southeast. These reversals and the location of nodal zones should be considered in the development of future beach protection strategies.

Suggestions for the design of future beach monitoring studies have been developed. These require that the consideration be given the method of analysis when selecting the temporal and spatial scales of the beach profile lines. Other factors that must be considered are: location of profile lines relative to structures, offshore topography, possible nodal zones, and available resources. Pilot studies are suggested before the final monitoring design is adopted.

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APPENDIX A

PROFILE LINE DOCUMENTATION

COUNTRY	TYPE OF MARK	STATION CERC PROFILE 1	
U.S.A.	Standard Disk	BE-1 (-)0+59	
LOCALITY	STAMPING ON MARK	AGENCY (CAST IN MARKS)	ELEVATION (FT) (M)
Barnegat Light, NJ	B.E.-1 -0+59	Corps of Engineers	7.38
LATITUDE	LONGITUDE	DATUM	DATUM
39°45'38.64"	74°06'18.31"		S.L.D. 1929
(NORTHING)(EASTING) (FT) (M)	(EASTING)(NORTHING) (FT) (M)	GRID AND ZONE	ESTABLISHED BY (AGENCY)
338 277	2,157 882	NJ Trans. Mercator	Corps of Engineers
(NORTHING)(EASTING) (FT) (M)	(EASTING)(NORTHING) (FT) (M)	GRID AND ZONE	DATE / ORDER
			7 Nov 1975

TO OBTAIN GRID AZIMUTH, ADD ° ' " TO THE GEODETIC AZIMUTH

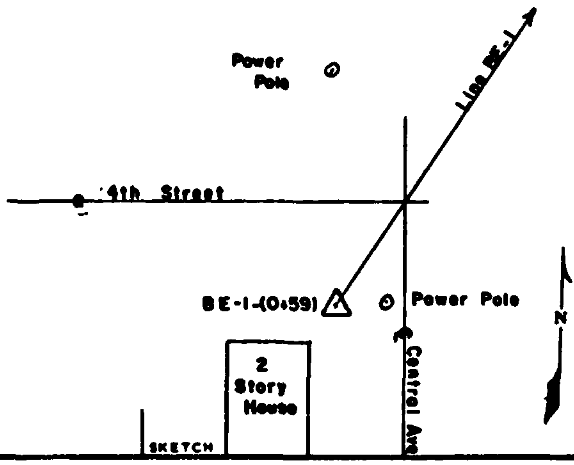
TO OBTAIN GRID AZ. (ADD)(SUB.) ° ' " TO THE GEODETIC AZIMUTH

OBJECT	AZIMUTH OR DIRECTION (GEODETIC)(GRID)(MAGNETIC)	BACK AZIMUTH	GEOD. DISTANCE (METERS) (FEET)	GRID DISTANCE (METERS) (FEET)
	° ' "	° ' "		

The station is located at the north end of Long Beach Island at Barnegat Light at the intersection of 4th St. and Central Ave. It is 58.60' south of a PK nail in a power pole (B.T.301148); 10.00' west of a PK nail in a power pole (no number) ; and 9.35' NE of the NE corner of a two story dwelling at 401 4th St.

The station is set flush with the ground.

Azimuth of line BE-1 = 257°58'



SKETCH

DA FORM 1959 1 OCT 64 REPLACES DA FORMS 1959 AND 1960, 1 FEB 57, WHICH ARE OBSOLETE.

DESCRIPTION OR RECOVERY OF HORIZONTAL CONTROL STATION
For use of this form, see TM 5-237; the proponent agency is U.S.Continental Army Command.

COUNTRY: U.S.A.	TYPE OF MARK: Standard Disk	STATION: CERC PROFILE 2 BE 2	
LOCALITY: Barnegat Lt., N.J.	STAMPING ON MARK: B.E.-2-62	AGENCY (CAST IN MARKS): Corps of Engineers	ELEVATION (FT) (M): 12.02
LATITUDE: 39°45'27.20"	LONGITUDE: 74°06'14.52"	DATUM:	DATUM: S.L.D. 1929
(NORTHING)(EASTING) (FT) (M): 337 122	(EASTING)(NORTHING) (FT) (M): 2,158 186	GRID AND ZONE: N.J. Trans. Mercator	ESTABLISHED BY (AGENCY): Corps of Engineers
(NORTHING)(EASTING) (FT) (M):	(EASTING)(NORTHING) (FT) (M):	GRID AND ZONE:	DATE: 7 Nov 1975 — ORDER:

TO OBTAIN GRID AZIMUTH, ADD ° ' " TO THE GEODETIC AZIMUTH

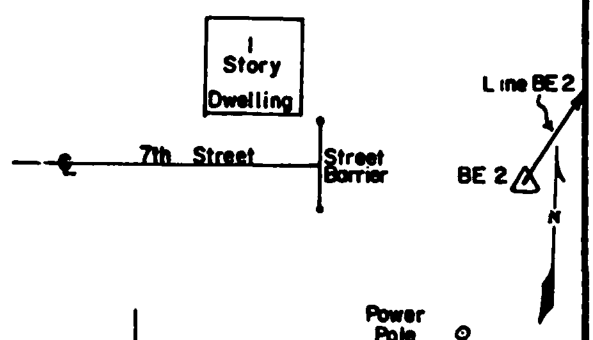
TO OBTAIN GRID AZ. (ADD)(SUB.) ° ' " TO THE GEODETIC AZIMUTH

OBJECT	AZIMUTH OR DIRECTION (GEODETIC)(GRID)(MAGNETIC)	BACK AZIMUTH	GEOD. DISTANCE (METERS) (FEET)	GRID DISTANCE (METERS) (FEET)
	° ' "	° ' "		

The station is located at the north end of Long Beach Island at Barnegat Light at the east end of 7th St. It is set 4.0' below the surface of sand dune. A 4" x 4" witness post is placed directly over the station.

The station is 60.80' SE of the SE corner of a one story dwelling; 29.74' NE of a PK nail in pole (Ace T7747); and 28.21' SE of PK nail in north post of street barrier.

Azimuth of line BE-2 = 262°03'



SKETCH

DA FORM 1 OCT 64 1959 REPLACES DA FORMS 1958 AND 1960, 1 FEB 57, WHICH ARE OBSOLETE.

DESCRIPTION OR RECOVERY OF HORIZONTAL CONTROL STATION
For use of this form, see TM 5-237; the proponent agency is U.S.Continental Army Command.

COUNTRY	TYPE OF MARK	STATION	
U.S.A.	Standard Disk	B.E. - 3 CERC PROFILE 3	
LOCALITY: Barnegat Light, N.J.	STAMPING ON MARK: B. E.-3-62	AGENCY (CAST IN MARKS): Corps of Engineers	ELEVATION (FT) (M): 18.43
LATITUDE: 39°45'16.90"	LONGITUDE: 74°06'15.24"	DATUM:	DATUM: S.L.D. 1929
(NORTHING (EASTING) (FT) (M): 336 079	(EASTING)(NORTHING) (FT) (M): 2,158 136	GRID AND ZONE: N.J. Trans. Mercator	ESTABLISHED BY (AGENCY): Corps of Engineers
(NORTHING)(EASTING) (FT) (M):	(EASTING)(NORTHING) (FT) (M):	GRID AND ZONE:	DATE: 7 Nov 1975 ORDER:

TO OBTAIN GRID AZIMUTH, ADD ° ' " TO THE GEODETIC AZIMUTH

TO OBTAIN GRID AZ. (ADD)(SUB.) ° ' " TO THE GEODETIC AZIMUTH

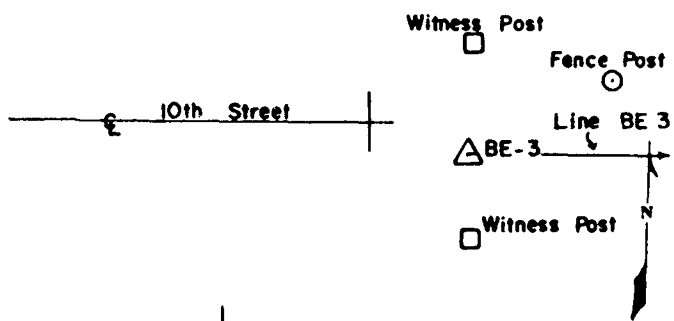
OBJECT	AZIMUTH OR DIRECTION (GEODETIC)(GRID) (MAGNETIC)	BACK AZIMUTH	GEOD. DISTANCE (METERS) (FEET)	GRID DISTANCE (METERS) (FEET)
	° ' "	° ' "		

Station is located at the northern end of Long Beach Island at Barnegat Light, approximately 200' east of east end of 10th St. on top of a high sand dune.

The station is 7.32' SW of PK nail in top of fence post; 5.00' south of PK nail in 4" x 4" witness post; and 5.00' north of PK nail in 4" x 4" witness post.

The station is flush with the ground.

Azimuth of line BE-3 = 294-39



SKETCH

DA FORM 1 OCT 64 1959 REPLACES DA FORMS 1959 AND 1960, 1 FEB 57, WHICH ARE OBSOLETE.

DESCRIPTION OR RECOVERY OF HORIZONTAL CONTROL STATION

For use of this form, see TM 5-237; the proponent agency is U.S. Continental Army Command.

COUNTRY	TYPE OF MARK	STATION CERC PROFILE 4	
U.S.A.	Standard Disk	B.E. 4 0+10	
LOCALITY	STAMPING ON MARK	AGENCY (CAST IN MARKS)	ELEVATION (FT) (M)
Barnegat Light, N.J.	B.E. 4 0+10	Corps of Engineers	10.99
LATITUDE	LONGITUDE	DATUM	DATUM
39°44'33.38"	74°06'50.32"		S.L.D. 1929
(NORTHING)(EASTING) (FT) (M)	(EASTING)(NORTHING) (FT) (M)	GRID AND ZONE	ESTABLISHED BY (AGENCY)
331 659	2,155 424	N.J. Trans. Mercator	Corps of Engineers
(NORTHING)(EASTING) (FT) (M)	(EASTING)(NORTHING) (FT) (M)	GRID AND ZONE	DATE / ORDER
			11 Nov 1973

TO OBTAIN	GRID AZIMUTH, ADD ° ' "	TO THE GEODETIC AZIMUTH
TO OBTAIN	GRID AZ. (ADD)(SUB.) ° ' "	TO THE GEODETIC AZIMUTH

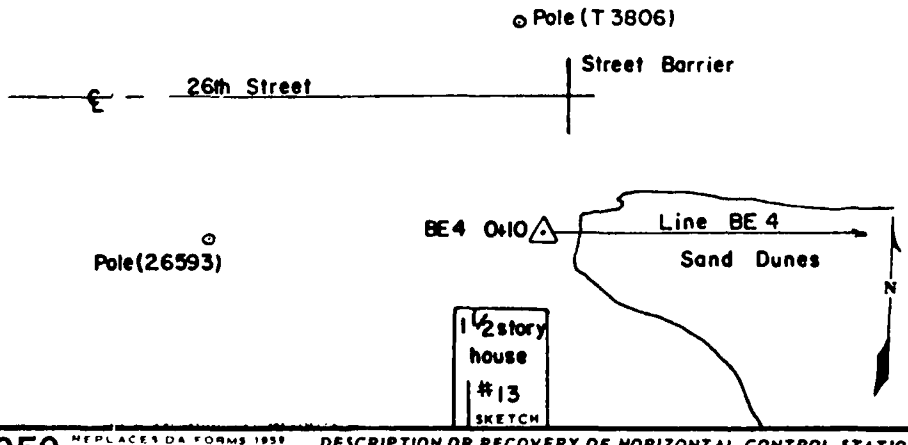
OBJECT	AZIMUTH OR DIRECTION (GEODETIC)(GRID) (MAGNETIC)	BACK AZIMUTH	GEOD. DISTANCE (METERS) (FEET)	GRID DISTANCE (METERS) (FEET)
	° ' "	° ' "		

Station is located at the northern end of Long Beach Island in Barnegat Light at the east end of 26th Street.

The station is; 66.20' south of PK nail in pole (#T 3806); 50.41' east of PK nail in pole (#26593); 35.00' south of ℄ of 26th Street; and 31.00' north of NE corner of house at SE end of 26th Street.

The station is set flush with the ground at the toe of a sand dune.

Azimuth of line BE-4 = 296-46



SKETCH

DA FORM 1 OCT 64 1959 REPLACES DA FORMS 1959 AND 1960, 1 FEB 57, WHICH ARE OBSOLETE.

DESCRIPTION OR RECOVERY OF HORIZONTAL CONTROL STATION
For use of this form, see TM 5-237; the proponent agency is U.S.Continental Army Command.

COUNTRY	TYPE OF MARK	STATION	
U. S. A.	Standard Disc	B. E. -5A 0+00 15' North CERC PROFILE 5	
LOCALITY Long Beach Is. Loveladies, NJ	STAMPING ON MARK B. E. -5A 0+00 NO	AGENCY (CAST IN MARKS) Corps of Engineers	ELEVATION (FT) 7.92
LATITUDE 39°43' 46.61"	LONGITUDE 74°07' 21.38"	DATUM	DATUM S.L.D. 1929
(NORTHING) (FT) 326 912	(EASTING) (FT) 2 153 026	GRID AND ZONE NJ Trans Merc.	ESTABLISHED BY (AGENCY) Corps of Engineers
(NORTHING)(EASTING) (FT) (M)	(EASTING)(NORTHING) (FT) (M)	GRID AND ZONE	DATE 11 Nov 75 / ORDER

TO OBTAIN GRID AZIMUTH, ADD ° ' " TO THE GEODETIC AZIMUTH

TO OBTAIN GRID AZ. (ADD)(SUB.) ° ' " TO THE GEODETIC AZIMUTH

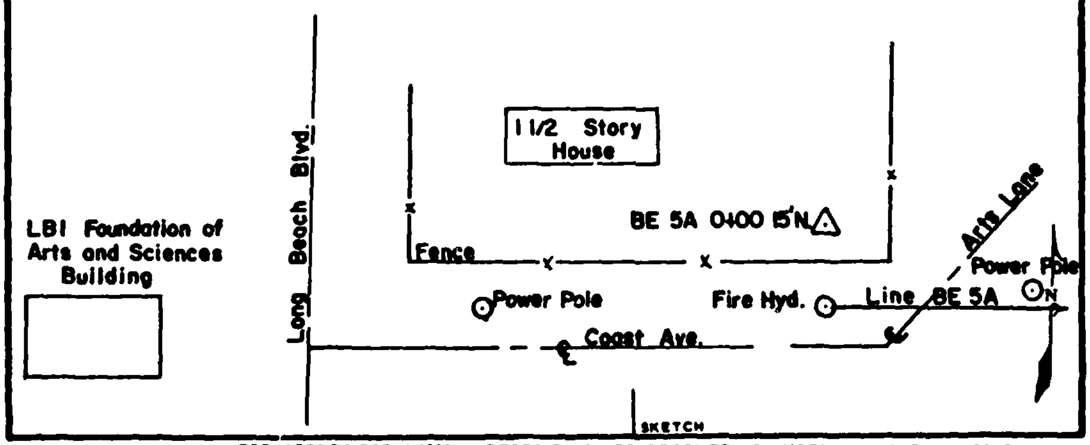
OBJECT	AZIMUTH OR DIRECTION (GEODETIC)(GRID) (MAGNETIC)	BACK AZIMUTH	GEOD. DISTANCE (METERS) (FEET)	GRID DISTANCE (METERS) (FEET)
	° ' "	° ' "		

Station is located at the northern end of Long Beach Island at Loveladies near the intersection of Coast Ave. and Arts Lane in the yard of the Martin Residence on the NW corner of the intersection.

Station is 75.18' NW of PK nail in pole (#T-15903), 58.40' NE of PK nail in pole (P35348), 50' west of Arts Lane, 32.00' SE of SE corner of the Martin house, 30' north of ℄ Coast Ave., and 15.00' north of top of fire hydrant on the north side of Coast Avenue.

Station is set 0.1' below the surface of the ground.

Azimuth of line BE-5A = 290-02



SKETCH

DA FORM 1 OCT 64 1959 REPLACES DA FORMS 1959 AND 1960, 1 FEB 57, WHICH ARE OBSOLETE.

DESCRIPTION OR RECOVERY OF HORIZONTAL CONTROL STATION
For use of this form, see TM 5-237; the proponent agency is U.S. Continental Army Command.

COUNTRY	TYPE OF MARK	STATION CERC PROFILE 6	
U. S. A.	Standard disc	B. E. -6 4+15	
LOCALITY Long Beach Is. Loveladies, NJ	STAMPING ON MARK B. E. -6 4+15	AGENCY (CAST IN MARKS) Corps of Engineers	ELEVATION (FT) 18.40 xxxx
LATITUDE 39°43'11.88"	LONGITUDE 74°07'34.83"	DATUM NJ Trans Merc	DATUM S. L. D. 1929
(NORTHING)(xxxxxxx) (FT) 323 392 xxxx	(EASTING)(xxxxxxx) (FT) 2 151 996 xxxx	GRID AND ZONE	ESTABLISHED BY (AGENCY) Corps of Engineers
(NORTHING)(EASTING) (FT) (M)	(EASTING)(NORTHING) (FT) (M)	GRID AND ZONE	DATE 11 Nov 75 / ORDER

TO OBTAIN GRID AZIMUTH, ADD ° ' " TO THE GEODETIC AZIMUTH

TO OBTAIN GRID AZ. (ADD)(SUB) ° ' " TO THE GEODETIC AZIMUTH

OBJECT	AZIMUTH OR DIRECTION (GEODETIC)(GRID) (MAGNETIC)	BACK AZIMUTH	GEOD. DISTANCE (METERS) (FEET)	GRID DISTANCE (METERS) (FEET)
	° ' "	° ' "		

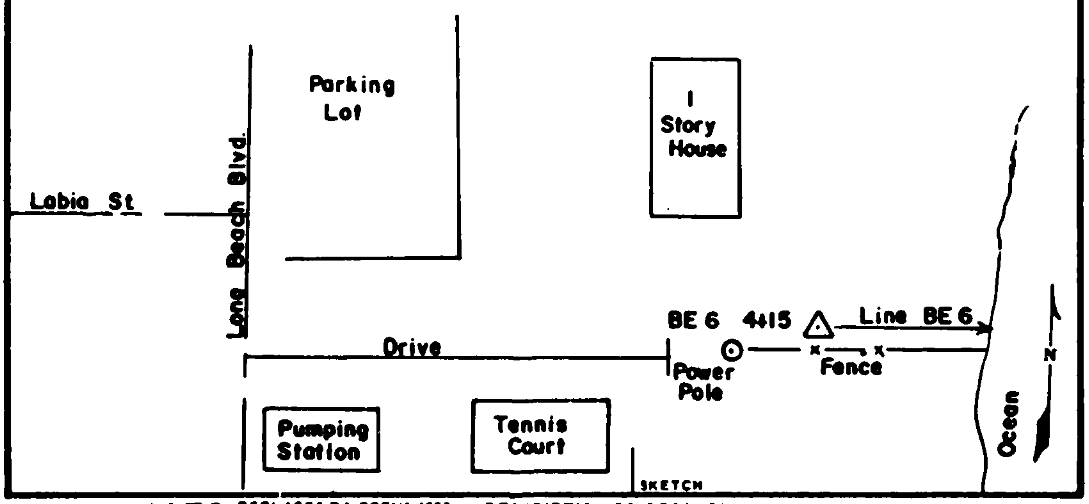
Station is located on the northern end of Long Beach Island at Loveladies near the intersection of Long Beach Blvd. and Labia Street.

Station is 35.75' east of PK nail in pole (Ace 3463), 28.68' SE of SE corner of porch decking on one story swelling, 4.47' north of a PK nail in top of fence post.

Station is set flush with the ground on slope of a large dune.

Disc reported missing March 1978 (W.A. Birkemeier).

Azimuth of line BE -6 = 290-42



SKETCH

DA FORM 1 OCT 64 1959 REPLACES DA FORMS 1959 AND 1960, 1 FEB 57, WHICH ARE OBSOLETE.

DESCRIPTION OR RECOVERY OF HORIZONTAL CONTROL STATION
For use of this form, see TM 5-237; the proponent agency is U.S.Continental Army Command.

COUNTRY	TYPE OF MARK	STATION CERC PROFILE 7	
U.S.A.	Standard Disk	B.E. -7 3+58	
LOCALITY	STAMPING ON MARK	AGENCY (CAST IN MARKS)	ELEVATION (FT) (M)
Harvey Cedars, NJ	B.E. -7 3+58	Corps of Engineers	19.29
LATITUDE	LONGITUDE	DATUM	DATUM
39°42'41.52"	74°07'50.02"		S.L.D. 1929
(NORTHING)(EASTING) (FT) (M)	(EASTING)(NORTHING) (FT) (M)	GRID AND ZONE	ESTABLISHED BY (AGENCY)
320 313	2,150 828	N.J. Trans. Mercator	Corps of Engineers
(NORTHING)(EASTING) (FT) (M)	(EASTING)(NORTHING) (FT) (M)	GRID AND ZONE	DATE / ORDER
			11 Nov 1975

TO OBTAIN GRID AZIMUTH, ADD ° ' " TO THE GEODETIC AZIMUTH

TO OBTAIN GRID AZ. (ADD)(SUB.) ° ' " TO THE GEODETIC AZIMUTH

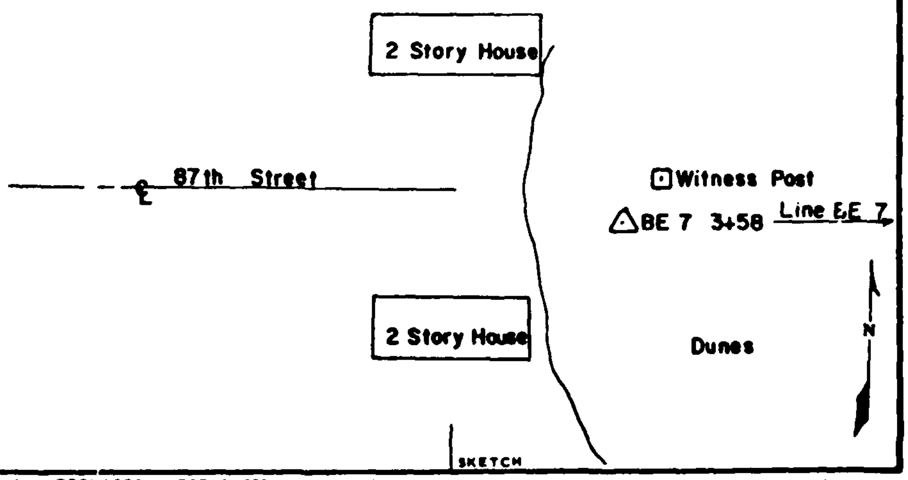
OBJECT	AZIMUTH OR DIRECTION (GEODETIC)(GRID) (MAGNETIC)	BACK AZIMUTH	GEOD. DISTANCE (METERS) (FEET)	GRID DISTANCE (METERS) (FEET)
	° ' "	° ' "		

The station is located at Harvey Cedars on Long Beach Island at the east end of 87th Street.

The station is 50.64' SE of the SE corner of a house on the north side of 87th Street; 40.30' NE of the NE corner of a house on the south side of 87th Street; and 3.0' SW of a 4" x 4" witness post.

The station is set on top of a high sand dune 0.3' below the surface.

Azimuth of line BE-7 = 289-41



SKETCH

DA FORM 1 OCT 64 1959 REPLACES DA FORMS 1959 AND 1960, 1 FEB 57, WHICH ARE OBSOLETE.

DESCRIPTION OR RECOVERY OF HORIZONTAL CONTROL STATION
For use of this form, see TM 5-237; the proponent agency is U.S.Continental Army Command.

COUNTRY	TYPE OF MARK	STATION	
U.S.A.	Standard Disk	CERL PROFILE 8 B.E. - 8 (-)0+22 15' South	
LOCALITY	STAMPING ON MARK	AGENCY (CAST IN MARKS)	ELEVATION (FT) (M)
Harvey Cedars, N.J.	B.E.-8 -0+22 15' So.	Corps of Engineers	6.16
LATITUDE	LONGITUDE	DATUM	DATUM
39°41'55.37"	74°08'19.30"		S.L.D. 1929
(NORTHING)(EASTING) (FT) (M)	(EASTING)(NORTHING) (FT) (M)	GRID AND ZONE	ESTABLISHED BY (AGENCY)
315 630	2,148 566	NJ Trans. Mercator	Corps of Engineers
(NORTHING)(EASTING) (FT) (M)	(EASTING)(NORTHING) (FT) (M)	GRID AND ZONE	DATE / ORDER
			11 Nov 1975

TO OBTAIN GRID AZIMUTH, ADD ° ' " TO THE GEODETIC AZIMUTH

TO OBTAIN GRID AZ. (ADD)(SUB) ° ' " TO THE GEODETIC AZIMUTH

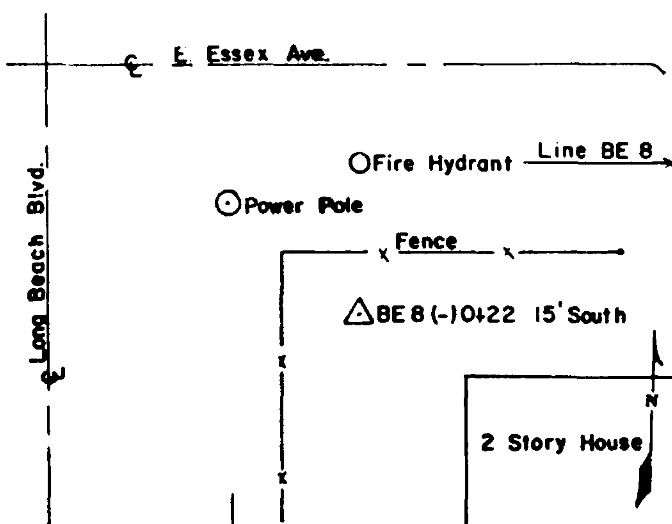
OBJECT	AZIMUTH OR DIRECTION (GEODETIC)(GRID)(MAGNETIC)	BACK AZIMUTH	GEOD DISTANCE (METERS) (FEET)	GRID DISTANCE (METERS) (FEET)
	° ' "	° ' "		

The Station is located at Harvey Cedars on Long Beach Island at the SE corner of the intersection of Long Beach Blvd. and E. Essex Ave. It is inside the north corner of the fence on the property of house #2.

The station is 35.52' NW of the NW corner of house on the SE corner of the intersection of Long Beach Blvd. and E. Essex Ave.; 21.00' SE of PK nail in telephone pole (#8140); 18.37' west of PK nail in top of east end of fence post; and 15.00' south of fire hydrant on south side of Essex Ave.

The station is set flush with the ground.

Azimuth of line BE-8 = 296-39



SKETCH

DA FORM 1 OCT 64 1959 REPLACES DA FORMS 1958 AND 1960, 1 FEB 57, WHICH ARE OBSOLETE.

DESCRIPTION OR RECOVERY OF HORIZONTAL CONTROL STATION
For use of this form, see TM 5-237; the proponent agency is U.S.Continental Army Command.

COUNTRY	TYPE OF MARK	STATION CERC PROFILE 9	
U.S.A.	Standard Disk	B.E. 9 0+82 15' North	
LOCALITY	STAMPING ON MARK	AGENCY (CAST IN MARKS)	ELEVATION (FT) (M)
Harvey Cedars, NJ	B.E.-9 0+82 15' NO.	Corps of Engineers	7.60
LATITUDE	LONGITUDE	DATUM	DATUM
39°41'37.17"	74°08'30.26"		S.L.D. 1929
(NORTHING)(EASTING) (FT) (M)	(EASTING)(NORTHING) (FT) (M)	GRID AND ZONE	ESTABLISHED BY (AGENCY)
313 783	2,147 721	NJ Trans. Mercator	Corps of Engineers
(NORTHING)(EASTING) (FT) (M)	(EASTING)(NORTHING) (FT) (M)	GRID AND ZONE	DATE / ORDER
			19 Nov 75

TO OBTAIN GRID AZIMUTH, ADD ° ' " TO THE GEODETIC AZIMUTH

TO OBTAIN GRID AZ. (ADD)(SUB.) ° ' " TO THE GEODETIC AZIMUTH

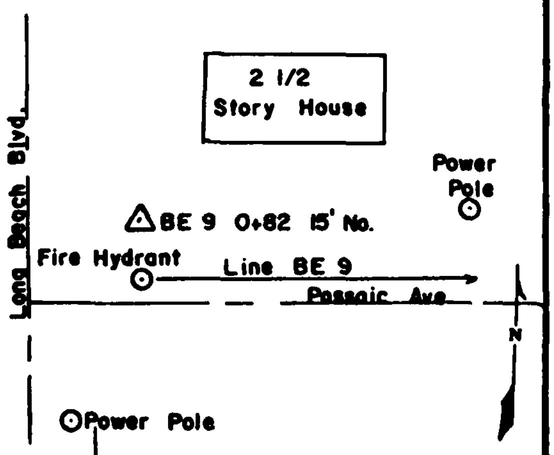
OBJECT	AZIMUTH OR DIRECTION (GEODETIC)(GRID) (MAGNETIC)	BACK AZIMUTH	GEOD. DISTANCE (METERS) (FEET)	GRID DISTANCE (METERS) (FEET)
	° ' "	° ' "		

The station is located on Long Beach Island in Harvey Cedars on NE corner of the intersection of Passaic Ave. and Long Beach Blvd. on the SW corner of the Pearlstein property.

The station is 118.19' west of PK nail in pole (T3917); 67.00' NE of PK nail in pole (T1877); 41.82' SW of SW corner of 2½ story house; and 15.00' north of fire hydrant on north side of Passaic Ave.

The station is set flush with the ground.

Azimuth of line BE 9 = 296-52



SKETCH

DA FORM 1 OCT 64 1959 REPLACES DA FORMS 1959 AND 1960, 1 FEB 57, WHICH ARE OBSOLETE.

DESCRIPTION OR RECOVERY OF HORIZONTAL CONTROL STATION
For use of this form, see TM 5-237; the proponent agency is U.S.Continental Army Command.

COUNTRY	TYPE OF MARK	STATION CERC PROFILE 10	
U.S.A.	Standard Disk	B.E. 10 0+00	
LOCALITY	STAMPING ON MARK	AGENCY (CAST IN MARKS)	ELEVATION (FT) (M)
Harvey Cedars, NJ	B.E.-10 0+00	Corps of Engineers	9.23
LATITUDE	LONGITUDE	DATUM	DATUM
39°41'12.76"	74°08'44.23"		S.L.D. 1929
(NORTHING)(EASTING) (FT) (M)	(EASTING)(NORTHING) (FT) (M)	GRID AND ZONE	ESTABLISHED BY (AGENCY)
311 307	2,146 643	NJ Trans. Mercator	Corps of Engineers
(NORTHING)(EASTING) (FT) (M)	(EASTING)(NORTHING) (FT) (M)	GRID AND ZONE	DATE / ORDER
			19 Nov 75

TO OBTAIN GRID AZIMUTH, ADD ° ' " TO THE GEODETIC AZIMUTH

TO OBTAIN GRID AZ. (ADD)(SUB.) ° ' " TO THE GEODETIC AZIMUTH

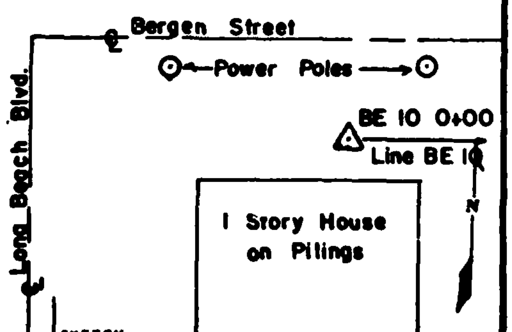
OBJECT	AZIMUTH OR DIRECTION (GEODETIC)(GRID) (MAGNETIC)	BACK AZIMUTH	GEOD. DISTANCE (METERS) (FEET)	GRID DISTANCE (METERS) (FEET)
	° ' "	° ' "		

The station is located on Long Beach Island at Harvey Cedars south of south edge of Bergen Ave. near the intersection of Bergen St. and Long Beach Blvd.

The station is 36.69' SE of PK nail in pole (T15248); 32.46' SW of PK nail in pole (T3484; and 17.00' NE of NW corner of one story house on piling which is the second house from the beach.

The station is set 0.3' below the surface of the ground.

Azimuth of line BE 10 = 297-31



SKETCH

DA FORM 1 OCT 64 1959 REPLACES DA FORMS 1959 AND 1960, 1 FEB 57, WHICH ARE OBSOLETE.

DESCRIPTION OR RECOVERY OF HORIZONTAL CONTROL STATION
For use of this form, see TM 5-237; the proponent agency is U.S.Continental Army Command.

COUNTRY	TYPE OF MARK	STATION	
U.S.A.	Standard Disk	CERC PROFILE 11 B.E. 11 3+25	
LOCALITY	STAMPING ON MARK	AGENCY (CAST IN MARKS)	ELEVATION (FT)
North Beach, NJ	B.E.-11 3+25	Corps of Engineers	19.50
LATITUDE	LONGITUDE	DATUM	DATUM
39°40'41.05"	74°09'05.15"		S.L.D. 1929
(NORTHING)(EASTING) (FT)	(EASTING)(NORTHING) (FT)	GRID AND ZONE	ESTABLISHED BY (AGENCY)
308 089	2,145 026	NJ Trans. Mercator	Corps of Engineers
(NORTHING)(EASTING) (FT) (M)	(EASTING)(NORTHING) (FT) (M)	GRID AND ZONE	DATE / ORDER
			19 Nov 75

TO OBTAIN GRID AZIMUTH, ADD ° ' " TO THE GEODETIC AZIMUTH

TO OBTAIN GRID AZ. (ADD)(SUB.) ° ' " TO THE GEODETIC AZIMUTH

OBJECT	AZIMUTH OR DIRECTION (GEODETIC)(GRID) (MAGNETIC)	BACK AZIMUTH	GEOD DISTANCE (METERS) (FEET)	GRID DISTANCE (METERS) (FEET)
	° ' "	° ' "		

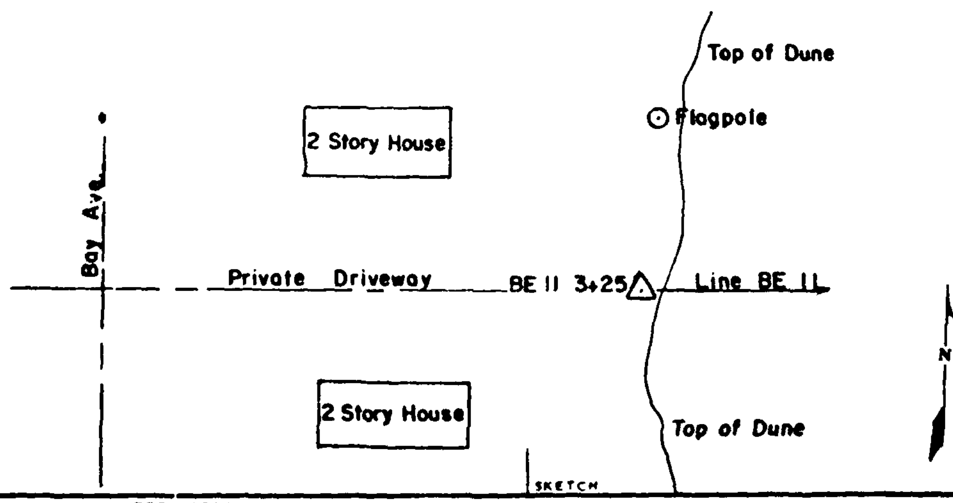
The station is located on Long Beach Island in North Beach, west of Bay Ave. at east end of a private driveway which intersects Bay Ave. in the vicinity of pole #8066.

The station is NE of NE corner of porch on south side of the driveway; 51.15' SE of SE corner of house on north side of driveway; 48.47' south of flagpole on beach; and 1.0' east of 4"x4" witness post.

The station is set flush with the ground.

Immediately east of witness post.

Azimuth of line BE 11 = 302-13



SKETCH

DA FORM 1 OCT 60 1959 REPLACES DA FORMS 1959 AND 1960, 1 FEB 57, WHICH ARE OBSOLETE.

DESCRIPTION OR RECOVERY OF HORIZONTAL CONTROL STATION

For use of this form, see TM 5-237; the proponent agency is U.S. Continental Army Command.

COUNTRY	TYPE OF MARK	STATION	
U.S.A.	Standard Disk	B.E. 12 0+00 CERC PROFILE 12	
LOCALITY	STAMPING ON MARK	AGENCY (CAST IN MARKS)	ELEVATION (FT)
Surf City, N.J.	B.E. 12 1962	Corps of Engineers	14.88
LATITUDE	LONGITUDE	DATUM	DATUM
39°39'59.37"	74°09'37.54"		S.L.D. 1929
(NORTHING) (FT)	(EASTING) (FT)	GRID AND ZONE	ESTABLISHED BY (AGENCY)
303 857	2,142 518	NJ Trans. Mercator	Corps of Engineers
(NORTHING)(EASTING) (FT) (M)	(EASTING)(NORTHING) (FT) (M)	GRID AND ZONE	DATE / ORDER
			Oct 1962

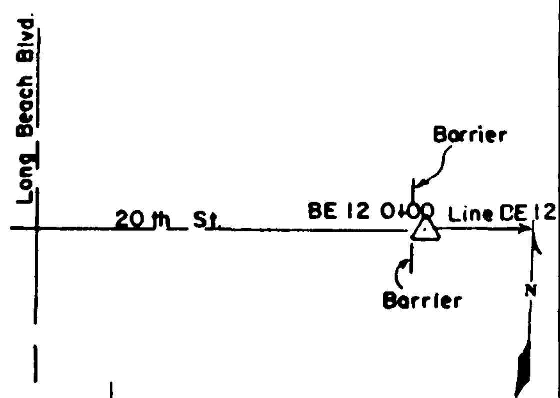
TO OBTAIN	GRID AZIMUTH, ADD °	TO THE GEODETIC AZIMUTH
TO OBTAIN	GRID AZ. (ADD)(SUB) °	TO THE GEODETIC AZIMUTH

OBJECT	AZIMUTH OR DIRECTION (GEODETIC)(GRID) (MAGNETIC)	BACK AZIMUTH	GEOD DISTANCE (METERS) (FEET)	GRID DISTANCE (METERS) (FEET)
	° ' "	° ' "		

The Station is located on Long Beach Island in Surf City at the east end of 20th Street and 497.0' east of Long Beach Blvd. along the centerline of of 20th Street.

Disc reported missing March 1978 (W.A. Birkemeier).

Azimuth of line BE 12 = 301-59



SKETCH

DA FORM 1 OCT 64 1959 REPLACES DA FORMS 1959 AND 1960, 1 FEB 57, WHICH ARE OBSOLETE.

DESCRIPTION OR RECOVERY OF HORIZONTAL CONTROL STATION
For use of this form, see TM 5-237; the proponent agency is U.S.Continental Army Command.

COUNTRY: U.S.A.	TYPE OF MARK: Standard Disk	STATION: B.E. 13A 0+50 CERC PROFILE 15	
LOCALITY: Ship Bottom, NJ	STAMPING ON MARK: B.E.-13A 0+50	AGENCY (CAST IN MARKS): Corps of Engineers	ELEVATION (FT) (M): 14.52
LATITUDE: 39°38'47.99"	LONGITUDE: 74°10'35.18"	DATUM:	DATUM: S.L.D. 1929
(NORTHING)(EASTING) (FT) (M): 296 610	(EASTING)(NORTHING) (FT) (M): 2,138 049	GRID AND ZONE: NJ Trans. Mercator	ESTABLISHED BY (AGENCY): Corps of Engineers
(NORTHING)(EASTING) (FT) (M):	(EASTING)(NORTHING) (FT) (M):	GRID AND ZONE:	DATE: 19 Nov 75 ORDER:

TO OBTAIN GRID AZIMUTH, ADD ° ' " TO THE GEODETIC AZIMUTH

TO OBTAIN GRID AZ. (ADD)(SUB.) ° ' " TO THE GEODETIC AZIMUTH

OBJECT	AZIMUTH OR DIRECTION (GEODETIC)(GRID) (MAGNETIC)	BACK AZIMUTH	GEOD. DISTANCE (METERS) (FEET)	GRID DISTANCE (METERS) (FEET)
	° ' "	° ' "		

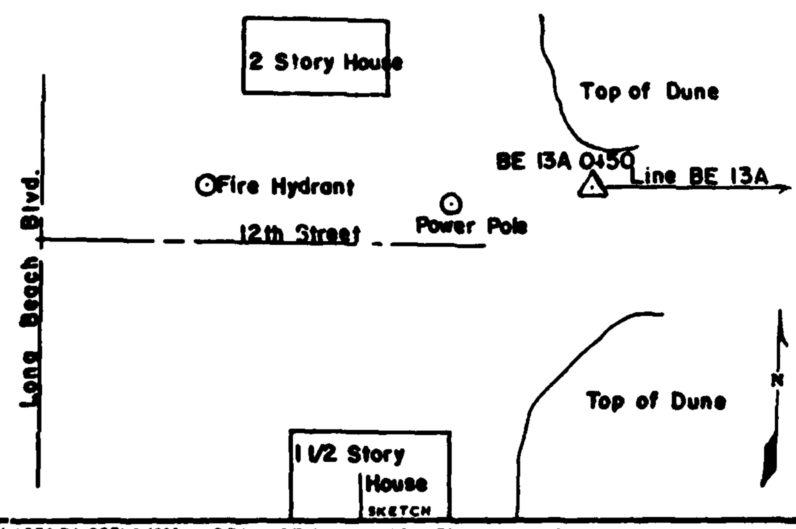
Station is located on Long Beach Island in Ship Bottom at the east end of 12th Street.

Station is 64.00' NE of NE corner of house south of 12th St.; 50.00' east of fire hydrant on north side of street; 31.50' SE of SE corner of house north of street; and 11.90' east of PK nail in pole #P9015.

Station is set flush with the ground.

Just south of entrance onto island.

Azimuth of line BE 13A = 301-52



DA FORM 1 OCT 64 1959 REPLACES DA FORMS 1959 AND 1960, 1 FEB 57, WHICH ARE OBSOLETE.

DESCRIPTION OR RECOVERY OF HORIZONTAL CONTROL STATION
For use of this form, see TM 5-237; the proponent agency is U.S.Continental Army Command.

COUNTRY	TYPE OF MARK	STATION	
U. S. A.	Standard Disk	B. E. -14 0+79	CERC PROFILE 14
LOCALITY Long Beach Isl. Ship Bottom, NJ	STAMPING ON MARK B. E. -14 0+79	AGENCY (CAST IN MARKS) Corps of Engineers	ELEVATION (FT) 14.12
LATITUDE 39°38'05.33"	LONGITUDE 74°11'07.63"	DATUM	DATUM S. L. D. 1929
(NORTHING) (FT) 292 280	(EASTING) (FT) 2 135 534	GRID AND ZONE NJ Trans Mercator	ESTABLISHED BY (AGENCY) Corps of Engineers
(NORTHING)(EASTING) (FT) (M)	(EASTING)(NORTHING) (FT) (M)	GRID AND ZONE	DATE 17 Feb 78 — ORDER

TO OBTAIN GRID AZIMUTH, ADD ° ' " TO THE GEODETIC AZIMUTH

TO OBTAIN GRID AZ. (ADD)(SUB.) ° ' " TO THE GEODETIC AZIMUTH

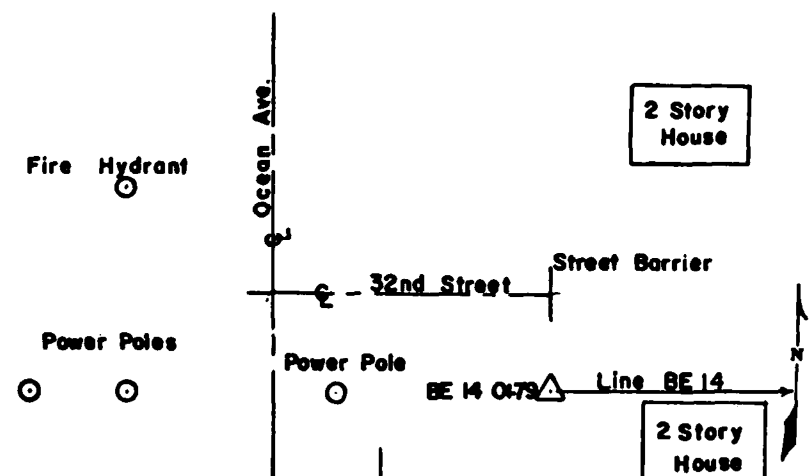
OBJECT	AZIMUTH OR DIRECTION (GEODETIC)(GRID)(MAGNETIC)	BACK AZIMUTH	GEOD. DISTANCE (METERS) (FEET)	GRID DISTANCE (METERS) (FEET)
	° ' "	° ' "		

Station is on Long Beach Island at Ship Bottom at east end of 32nd Street near intersection of 32nd Street and Ocean Ave.

Station is 85.60' SE of top of fire hydrant NW of intersection of 32nd Street and Ocean Ave., 50.65' SE of SW corner of dwelling NE corner intersection 32nd Street and Ocean Ave., 50.00' east of OceanAve. ℄, 29.20' east of PK nail in pole (AC25775) 19.30' west of NW corner of swelling at SE corner intersection 32nd Street and Ocean Ave.

Station is flush with the ground.

Azimuth of Line BE-14 = 299-18



SKETCH

DA FORM 1 OCT 64 1959 REPLACES DA FORMS 1959 AND 1960, 1 FEB 57, WHICH ARE OBSOLETE.

DESCRIPTION OR RECOVERY OF HORIZONTAL CONTROL STATION
For use of this form, see TM 5-237; the proponent agency is U.S.Continental Army Command.

COUNTRY	TYPE OF MARK	STATION CERC PROFILE 15	
U.S.A.	Standard Disk	B.E. 15 3+30	
LOCALITY	STAMPING ON MARK	AGENCY (CAST IN MARKS)	ELEVATION (FT)
Beach Haven Crest NJ	B. E.-15 3+30	Corps of Engineers	14.98
LATITUDE	LONGITUDE	DATUM	DATUM
39°36'30.98"	74°12'11.61"		S.L.D. 1929
(NORTHING) (FT)	(EASTING) (FT)	GRID AND ZONE	ESTABLISHED BY (AGENCY)
282 707	2,130 578	NJ Trans. Mercator	Corps of Engineers
(NORTHING)(EASTING) (FT) (M)	(EASTING)(NORTHING) (FT) (M)	GRID AND ZONE	DATE 17 Feb 78 / ORDER

TO OBTAIN GRID AZIMUTH ADD ° ' " TO THE GEODETIC AZIMUTH

TO OBTAIN GRID AZ (ADD)(SUB) ° ' " TO THE GEODETIC AZIMUTH

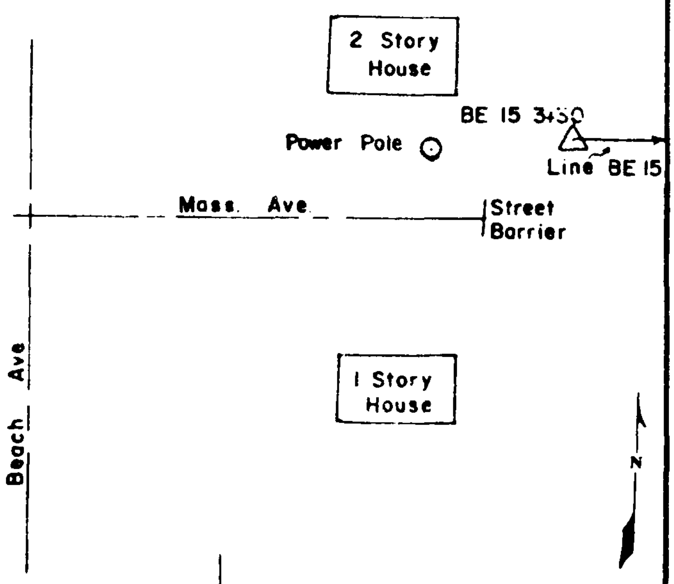
OBJECT	AZIMUTH OR DIRECTION (GEODETIC)(GRID) (MAGNETIC)	BACK AZIMUTH	GEOD DISTANCE (METERS) (FEET)	GRID DISTANCE (METERS) (FEET)

The station is located on Long Beach Island in Beach Haven Crest, one mile south of Beach Arlington Tank at the east end of Massachusetts Ave. at the toe of the sand dunes.

The station is 43.28' NE of NE corner of porch of house south of east end of Mass. Ave.; 40.00' east of PK nail in pole T-98 on north side of Mass. Ave.; and 17.90' SE of SE corner of porch of house north of Mass. Ave.

The station is set 1.0' below the ground surface.

Azimuth of line BE 15 = 300-35



SKETCH

DA FORM 1 OCT 61 1959 REPLACES DA FORMS 1959 AND 1960, 1 FEB 57, WHICH ARE OBSOLETE.

DESCRIPTION OR RECOVERY OF HORIZONTAL CONTROL STATION
For use of this form, see TM 5-237, the proponent agency is U.S.Continental Army Command.

COUNTRY	TYPE OF MARK	STATION *CERC PROFILE 16*	
U.S.A.	Standard Disk	B.E. 16 0+81	
LOCALITY: Beach Haven Terrace	STAMPING ON MARK: B. E.-16 0+81	AGENCY (CAST IN MARKS): Corps of Engineers	ELEVATION (FT) (M): 16.13
LATITUDE: 39°35'17.72"	LONGITUDE: 74°13'06.46"	DATUM	DATUM: S.L.D. 1929
(NORTHING)(~~EASTING~~) (FT) (M): 275 273	(EASTING)(~~NORTHING~~) (FT) (M): 2,126 322	GRID AND ZONE: NJ Trans. Mercator	ESTABLISHED BY (AGENCY): Corps of Engineers
(NORTHING)(EASTING) (FT) (M)	(EASTING)(NORTHING) (FT) (M)	GRID AND ZONE	DATE: 16 Feb 78 ORDER

TO OBTAIN GRID AZIMUTH, ADD ° ' " TO THE GEODETIC AZIMUTH

TO OBTAIN GRID AZ. (ADD)(SUB.) ° ' " TO THE GEODETIC AZIMUTH

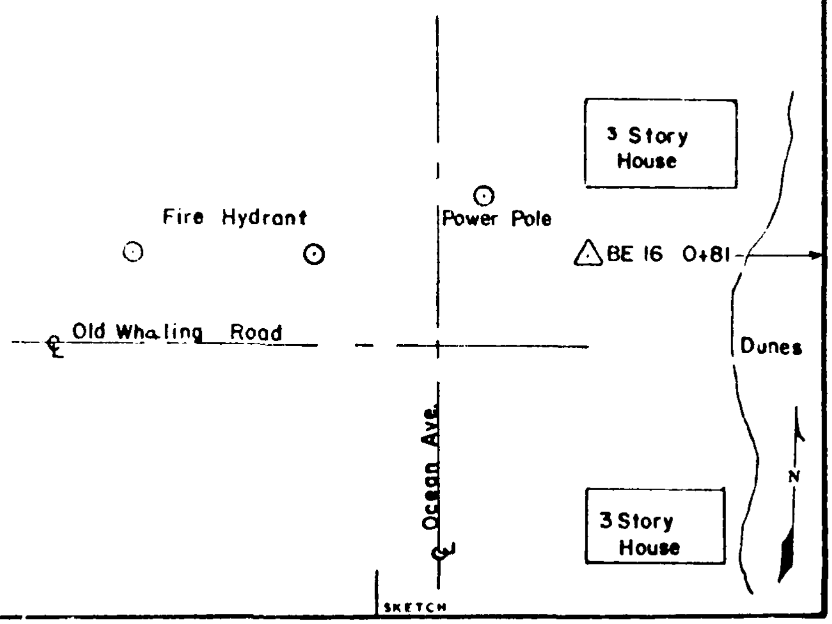
OBJECT	AZIMUTH OR DIRECTION (GEODETIC)(GRID) (MAGNETIC)	BACK AZIMUTH	GEOD. DISTANCE (METERS) (FEET)	GRID DISTANCE (METERS) (FEET)
	° ' "	° ' "		

The station is on Long Beach Island in Beach Haven Terrace on the north side and east end of Old Whaling Rd. near the centerline of Ocean Ave. and Old Whaling Rd.

The station is 53.40' north of NW corner of house at SE corner of intersection 48.00' east of Ocean Ave. centerline; 35.00' SE of PK nail in pole #ACT-4745; and 23.89' south of SW corner of house at NE corner of intersection.

The station is set flush with the ground.

Azimuth of line BE 16 = 297-11



SKETCH

DA FORM 1959 REPLACES DA FORMS 1959 AND 1960, 1 FEB 57, WHICH ARE OBSOLETE

DESCRIPTION OR RECOVERY OF HORIZONTAL CONTROL STATION
For use of this form, see TM 5-237; the proponent agency is U.S.Continental Army Command.

COUNTRY	TYPE OF MARK	STATION	
U.S.A.	Standard Disk	CERC PROFILE 17 B. E. 17 0+00	
LOCALITY	STAMPING ON MARK	AGENCY (CAST IN MARKS)	ELEVATION (FT)
Beach Haven N.J.	B.E.-17-62,ELEV.13.49	Corps of Engineers	13.49
LATITUDE	LONGITUDE	DATUM	DATUM
39°34'01.59"	74°13'57.66"		S.L.D. 1929
(NORTHING)(EASTING) (FT) (M)	(EASTING)(NORTHING) (FT) (M)	GRID AND ZONE	ESTABLISHED BY (AGENCY)
267 551	2,122 350	NJ Trans Mercator	Corps of Engineers
(NORTHING)(EASTING) (FT) (M)	(EASTING)(NORTHING) (FT) (M)	GRID AND ZONE	DATE / ORDER
			25 Nov 75

TO OBTAIN GRID AZIMUTH, ADD ° ' " TO THE GEODETIC AZIMUTH

TO OBTAIN GRID AZ. (ADD)(SUB.) ° ' " TO THE GEODETIC AZIMUTH

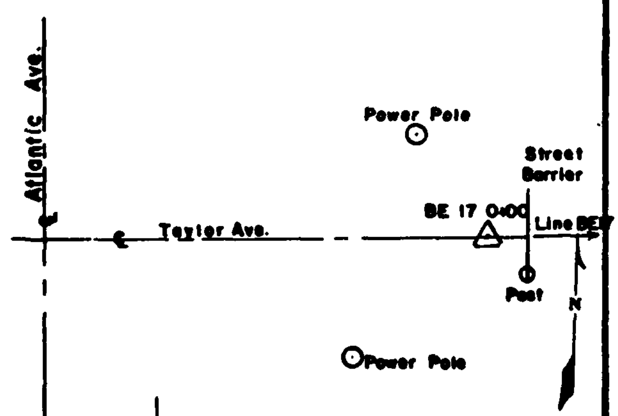
OBJECT	AZIMUTH OR DIRECTION (GEODETIC)(GRID) (MAGNETIC)	BACK AZIMUTH	GEOD. DISTANCE (METERS) (FEET)	GRID DISTANCE (METERS) (FEET)
	° ' "	° ' "		

The station is on Long Beach Island at Beach Haven on the centerline and east end of Taylor Ave.

Station is 50.45' SE of PK nail in pole #t-5093; 42.60' NE of PK nail in pole #ACT568; and 6.08' NW of PK nail in street barrier post.

Station is set flush with the ground.

Azimuth of line BE 17 = 295-58



SKETCH

DA FORM 1 OCT 64 1959 REPLACES DA FORMS 1959 AND 1960, 1 FEB 57, WHICH ARE OBSOLETE.

DESCRIPTION OR RECOVERY OF HORIZONTAL CONTROL STATION
For use of this form, see TM 5-237; the proponent agency is U.S.Continental Army Command.

COUNTRY	TYPE OF MARK	STATION	
U.S.A.	Standard Disk	CERC PROFILE 18 BE 18 1+90	
LOCALITY	STAMPING ON MARK	AGENCY (CAST IN MARKS)	ELEVATION (FT) (M)
Beach Haven, N.J.	B.E. -18 1+90	Corps of Engineers	14.99
LATITUDE	LONGITUDE	DATUM	DATUM
39°33'07.57"	74°14'44.49"		S.L.D. 1929
(NORTHING)(EASTING) (FT) (M)	(EASTING)(NORTHING) (FT) (M)	GRID AND ZONE	ESTABLISHED BY (AGENCY)
262 067	2,118 709	NJ Trans. Mercator	Corps of Engineers
(NORTHING)(EASTING) (FT) (M)	(EASTING)(NORTHING) (FT) (M)	GRID AND ZONE	DATE / ORDER
			16 Feb 78

TO OBTAIN GRID AZIMUTH ADD ° ' " TO THE GEODETIC AZIMUTH

TO OBTAIN GRID AZ. (ADD)(SUB.) ° ' " TO THE GEODETIC AZIMUTH

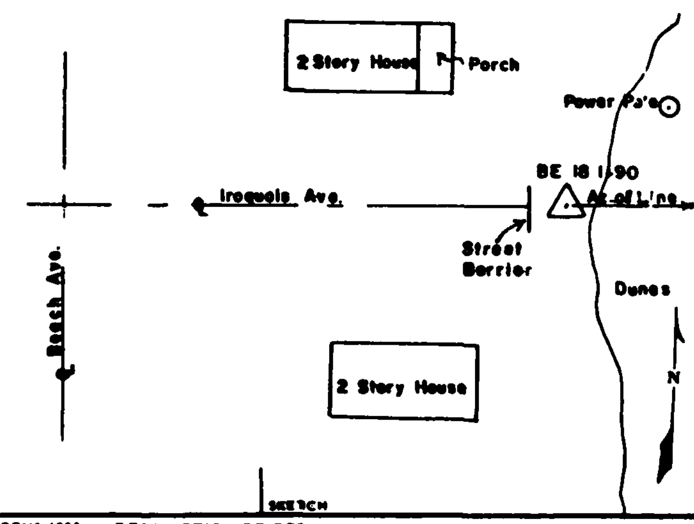
OBJECT	AZIMUTH OR DIRECTION (GEODETIC)(GRID) (MAGNETIC)	BACK AZIMUTH	GEOD. DISTANCE (METERS) (FEET)	GRID DISTANCE (METERS) (FEET)
	° ' "	° ' "		

The station is located on Long Beach Island in Beach Haven at the east end of Iroquois Ave. extended.

Station is 51.51' NE of corner of porch of house at SE end of Iroquois Ave.; 41.40' SW of PK nail in pole (no number); 41.00'SE of SE corner of porch at the NE end of Iroquois Ave.; and 3.0' east of street barrier at the end of Iroquois Ave.

Station is set 0.2' below the ground.

Azimuth of line BE 18 = 297-50



DA FORM 1959, 1 OCT 64 — REPLACES DA FORMS 1959 AND 1960, 1 FEB 57, WHICH ARE OBSOLETE.

DESCRIPTION OR RECOVERY OF HORIZONTAL CONTROL STATION
For use of this form, see TM 5-237; the proponent agency is U.S.Continental Army Command.

COUNTRY	TYPE OF MARK	STATION CERC PROFILE 19	
U. S. A.	Standard Disc	B. E. - 19 0+10	
LOCALITY Long Beach Isl Holgate, NJ	STAMPING ON MARK B. E. - 19 0+10	AGENCY (CAST IN MARKS) Corps of Engineers	ELEVATION (FT) 7.31
LATITUDE 39°32' 33.04"	LONGITUDE 74°15' 20.91"	DATUM	DATUM S. L. D. 1929
(NORTHING)(EASTING) (FT) 258 561	(EASTING)(NORTHING) (FT) 2 115 872	GRID AND ZONE NJ Trans Merc	ESTABLISHED BY (AGENCY) Corps of Engineers
(NORTHING)(EASTING) (FT) (M)	(EASTING)(NORTHING) (FT) (M)	GRID AND ZONE	DATE 16 Feb 78 ORDER

TO OBTAIN GRID AZIMUTH ADD ° ' " TO THE GEODETIC AZIMUTH

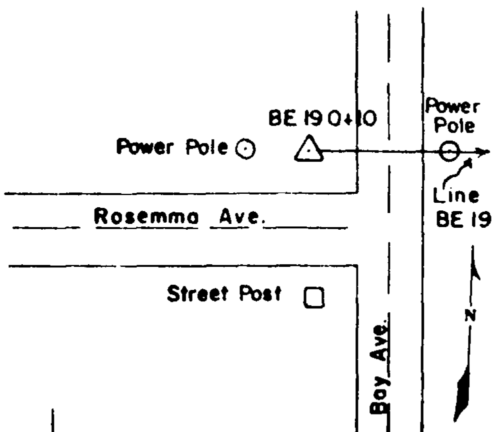
TO OBTAIN GRID AZ (ADD)(SUB) ° ' " TO THE GEODETIC AZIMUTH

OBJECT	AZIMUTH OR DIRECTION (GEODETIC)(GRID) (MAGNETIC)	BACK AZIMUTH	GEOD DISTANCE (METERS) (FEET)	GRID DISTANCE (METERS) (FEET)
	° ' "	° ' "		

Station is on Long Beach Island in Holgate at NW corner of intersection of Bay and Rosemma Ave.

Station is 52.90' west of a PK nail in power pole #T782; 44.00' north of street post at SW corner of intersection of Bay and Rosemma Ave; and 11.00' east of PK nail in power pole #P1198.

Station is flush with the ground.



SKETCH

DA FORM 1 OCT 61 1959 REPLACES DA FORMS 1959 AND 1960, 1 FEB 57, WHICH ARE OBSOLETE.

DESCRIPTION OR RECOVERY OF HORIZONTAL CONTROL STATION
For use of this form, see TM 5-237; the proponent agency is U.S. Continental Army Command.

COUNTRY	TYPE OF MARK	STATION CERC PROFILE 20	
U. S. A.	Standard Disk	B. E. -20 0+30	
LOCALITY Long Beach Isl. Holgate, NJ	STAMPING ON MARK B. E. -20 0+30	AGENCY (CAST IN MARKS) Corps of Engineers	ELEVATION (FT) 6.48
LATITUDE 39 32 05.48	LONGITUDE 74 15 39.08	DATUM	DATUM S. L. D. 1929
(NORTHING)(EASTING) (FT) 255 766	(EASTING)(NORTHING) (FT) 2 114 461	GRID AND ZONE NJ Trans Merc	ESTABLISHED BY (AGENCY) Corps of Engineers
(NORTHING)(EASTING) (FT) (M)	(EASTING)(NORTHING) (FT) (M)	GRID AND ZONE	DATE 17 Feb 78 / ORDER

TO OBTAIN GRID AZIMUTH, ADD ° ' " TO THE GEODETIC AZIMUTH

TO OBTAIN GRID AZ (ADD)(SUB) ° ' " TO THE GEODETIC AZIMUTH

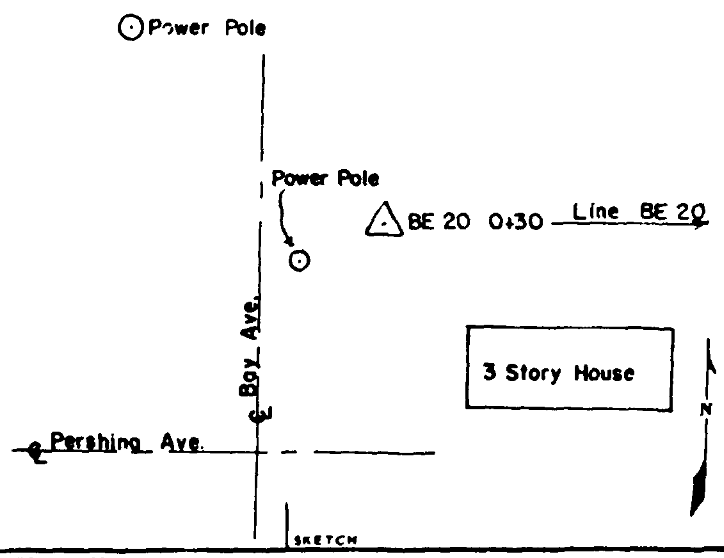
OBJECT	AZIMUTH OR DIRECTION (GEODETIC)(GRID) (MAGNETIC) ° ' "	BACK AZIMUTH ° ' "	GEOD. DISTANCE (METERS) (FEET)	GRID DISTANCE (METERS) (FEET)

Station is on Long Beach Island in Holgate east of Bay Ave. and north of Pershing Ave.

Station is 118.00' north of Pershing Ave., 76.65' SE of PK nail in pole #P11218, 64.70' NW of NW corner of house at NE corner of intersection, 30.00' east of Bay Ave., 7.39' NE of PK nail in pole #71.

Station is flush with the ground surface.

Azimuth of Line = 299-04



SKETCH

DA FORM 1 OCT 64 1959 REPLACES DA FORMS 1959 AND 1960, 1 FEB 57, WHICH ARE OBSOLETE.

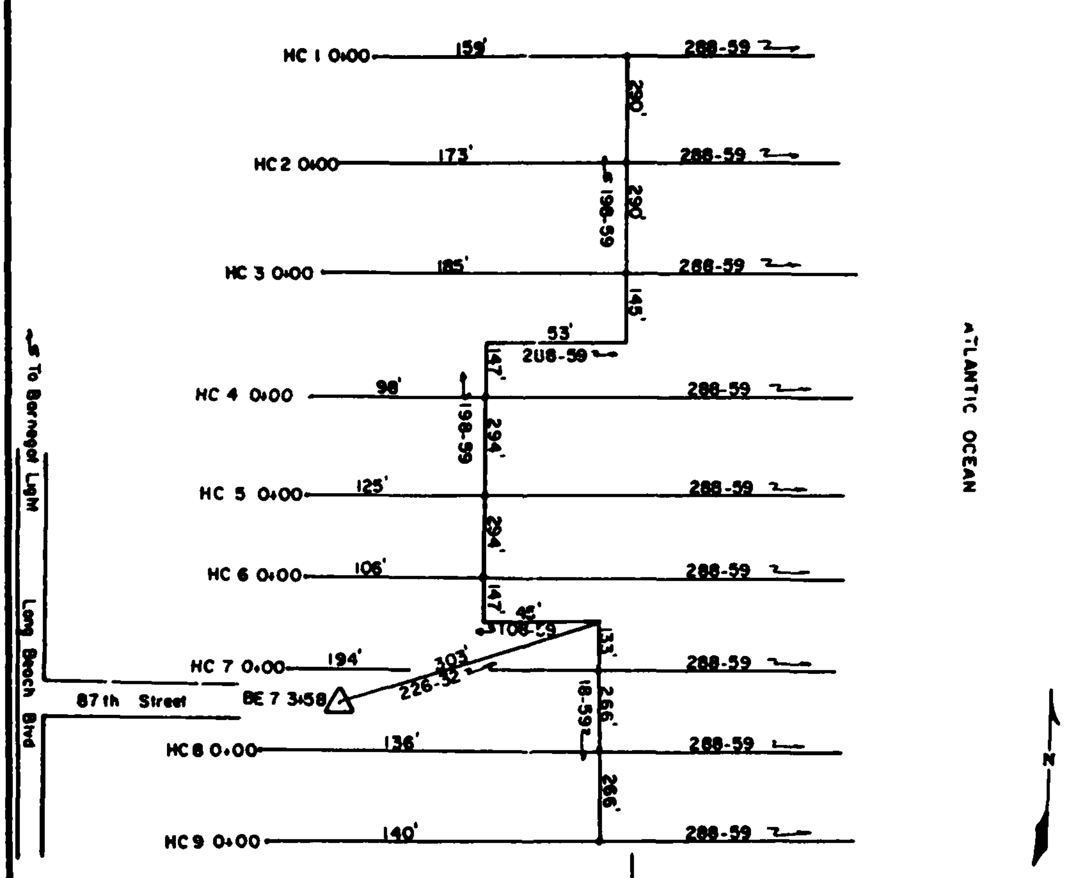
DESCRIPTION OR RECOVERY OF HORIZONTAL CONTROL STATION
For use of this form, see TM 5-237; the proponent agency is U.S.Continental Army Command.

COUNTRY	TYPE OF MARK	STATION	
U.S.A.		Harvey Cedars Beach Erosion Lines	
LOCALITY Harvey Cedars, NJ	STAMPING ON MARK	AGENCY (CAST IN MARKS)	ELEVATION (FT) (M)
LATITUDE	LONGITUDE	DATUM	DATUM
(NORTHING)(EASTING) (FT) (M)	(EASTING)(NORTHING) (FT) (M)	GRID AND ZONE	ESTABLISHED BY (AGENCY)
(NORTHING)(EASTING) (FT) (M)	(EASTING)(NORTHING) (FT) (M)	GRID AND ZONE	DATE / ORDER

TO OBTAIN GRID AZIMUTH, ADD ° ′ ″ TO THE GEODETIC AZIMUTH

TO OBTAIN GRID AZ. (ADD)(SUB.) ° ′ ″ TO THE GEODETIC AZIMUTH

OBJECT	AZIMUTH OR DIRECTION (GEODETIC)(GRID) (MAGNETIC)	BACK AZIMUTH	GEOD. DISTANCE (METERS) (FEET)	GRID DISTANCE (METERS) (FEET)
	° ′ ″	° ′ ″		



SKETCH

DA FORM 1 OCT 64 1959 REPLACES DA FORMS 1959 AND 1960, 1 FEB 57, WHICH ARE OBSOLETE.

DESCRIPTION OR RECOVERY OF HORIZONTAL CONTROL STATION
For use of this form, see TM 5-237; the proponent agency is U.S.Continental Army Command.

COUNTRY	TYPE OF MARK	STATION	
U.S.A.		Harvey Cedars Beach Erosion Lines	
LOCALITY Long Beach Is. Harvey Cedars, NJ	STAMPING ON MARK	AGENCY (CAST IN MARKS)	ELEVATION (FT) (M)
LATITUDE	LONGITUDE	DATUM	DATUM N.G.V.D. 1929
(NORTHING)(EASTING) (FT) (M)	(EASTING)(NORTHING) (FT) (M)	GRID AND ZONE N.J. Transverse Mer.	ESTABLISHED BY (AGENCY) Corps of Engineers
(NORTHING)(EASTING) (FT) (M)	(EASTING)(NORTHING) (FT) (M)	GRID AND ZONE	DATE / ORDER

TO OBTAIN GRID AZIMUTH, ADD ° ′ ″ TO THE GEODETIC AZIMUTH

TO OBTAIN GRID AZ. (ADD)(SUB.) ° ′ ″ TO THE GEODETIC AZIMUTH

OBJECT	AZIMUTH OR DIRECTION (GEODETIC)(GRID) (MAGNETIC)	BACK AZIMUTH	GEOD. DISTANCE (METERS) (FEET)	GRID DISTANCE (METERS) (FEET)
	° ′ ″	° ′ ″		

The Beach Erosion lines are located on Long Beach Island at Harvey Cedars in the vicinity of the intersection of 87th St. and Long Beach Blvd. The coordinates and elevations of the stations were established from B.E. 7 3+58. A list of coordinates and elevations follows:

STATION	CERC PROFILE	LATITUDE	DEPARTURE	ELEV.(ft.)	TYPE OF MARK
BE 7 3+58	7	320 313	2,150 828	19.29	Bronze Disk
HC 1 0+00	22	322 089	2,151 427	14.26	1½" plugged pipe
HC 2 0+00	23	321 820	2,151 320	14.79	1½" open end pipe
HC 3 0+00	24	321 550	2,151 215	12.98	1½" open end pipe
HC 4 0+00	25	321 263	2,151 152	15.51	1½" capped pipe
HC 5 0+00	26	320 994	2,151 031	17.42	1½" capped pipe
HC 6 0+00	27	320 710	2,150 953	12.54	1½" capped pipe
HC 7 0+00	28	320 459	2,150 821	13.98*	1½" open end pipe
HC 8 0+00	29	320 188	2,150 790	15.04	1½" plugged pipe
HC 9 0+00	30	319 938	2,150 700	16.22	1½" plugged pipe

*note: this is elevation of P.K. nail in pole(T-1729); 4' above ground and 18' north of HC 7 0+00.

N

SKETCH

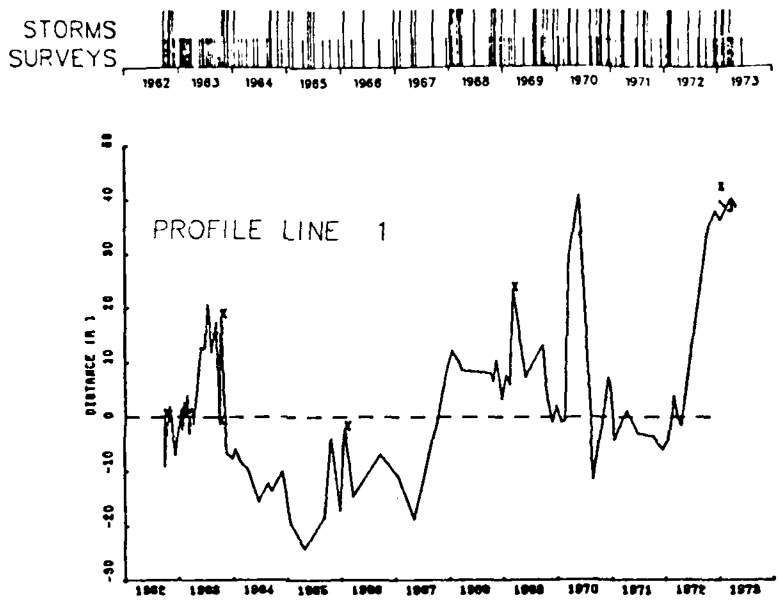
DA FORM 1 OCT 64 1959 REPLACES DA FORMS 1959 AND 1960, 1 FEB 57, WHICH ARE OBSOLETE.

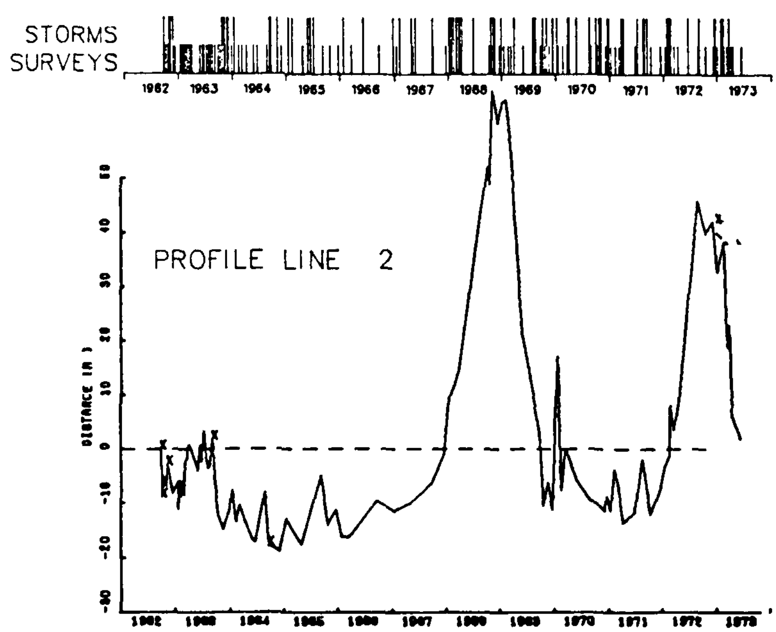
DESCRIPTION OR RECOVERY OF HORIZONTAL CONTROL STATION
For use of this form, see TM 5-237; the proponent agency is U.S.Continental Army Command.

APPENDIX B

MSL SHORELINE POSITION CHANGE

Distance measured from shoreline of first survey.
Symbol "X" indicates extrapolated value.


STORMS
SURVEYS
1962
1963
1964
1965
1966
1967
1968
1969
1970
1971
1972
1973
PROFILE LINE 1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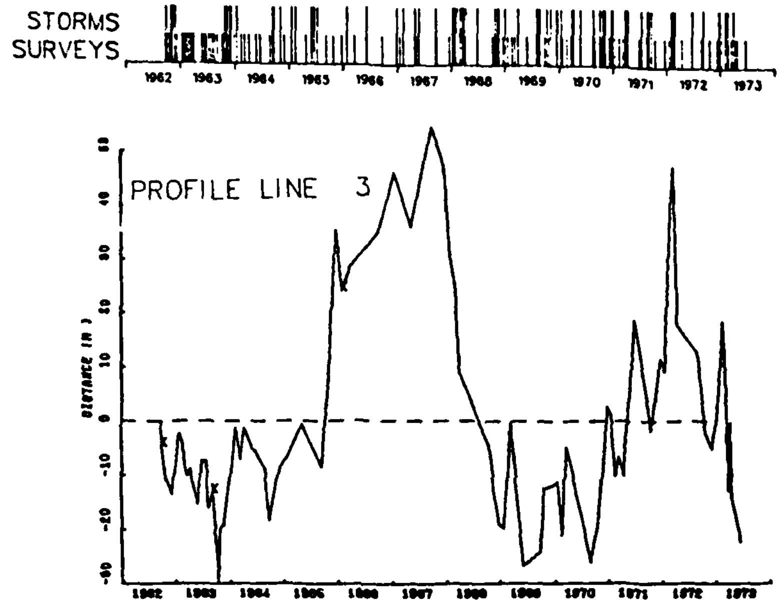
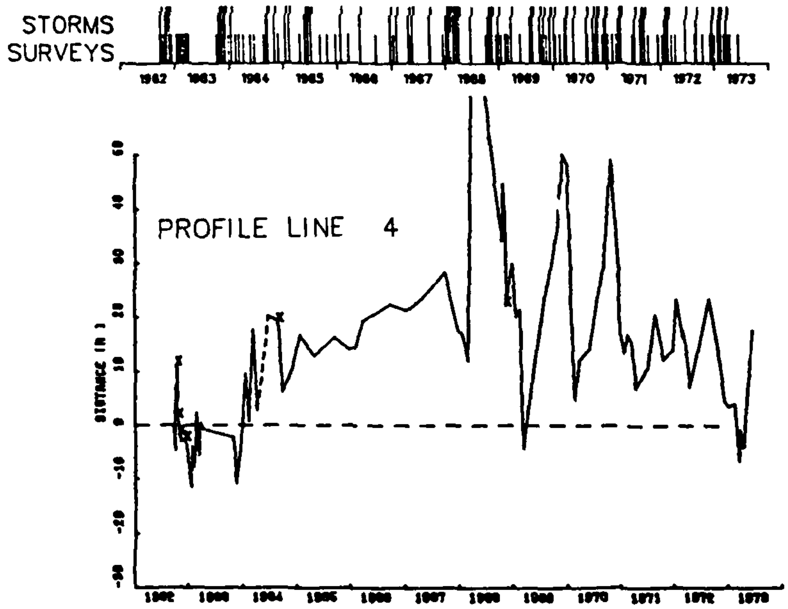
1973
PROFILE LINE 2


STORMS
SURVEYS
1962 1963 1964 1965 1966 1967 1968 1969 1970 1971 1972 1973
PROFILE LINE 3
DISTANCE (M)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SURVEYS
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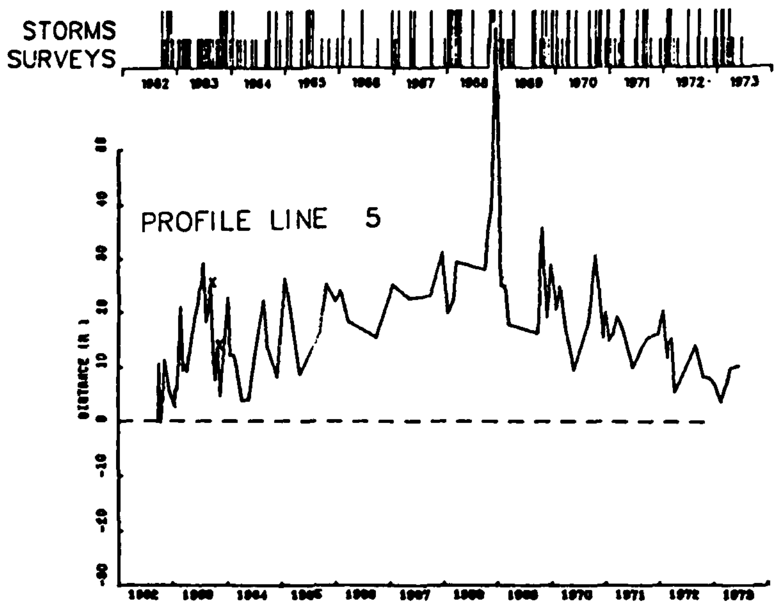
PROFILE LINE 4
DISTANCE (M)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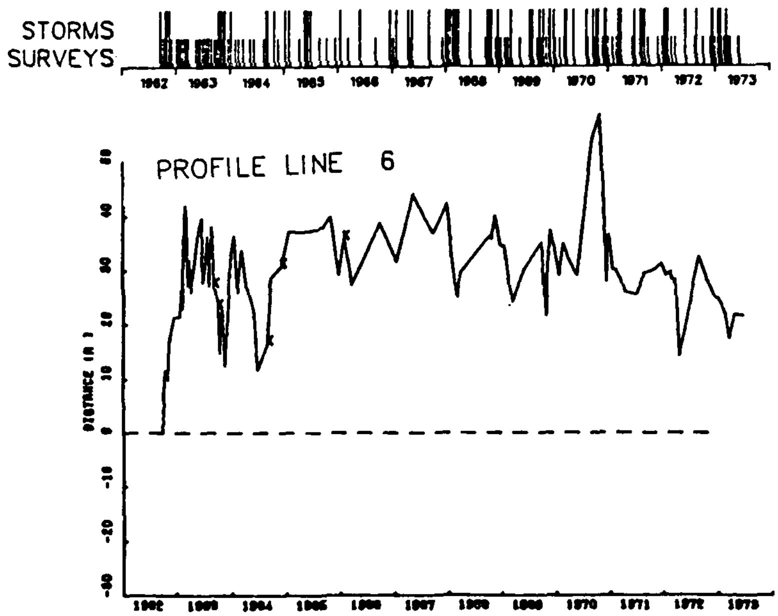
PROFILE LINE 5
DISTANCE (M)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SURVEYS
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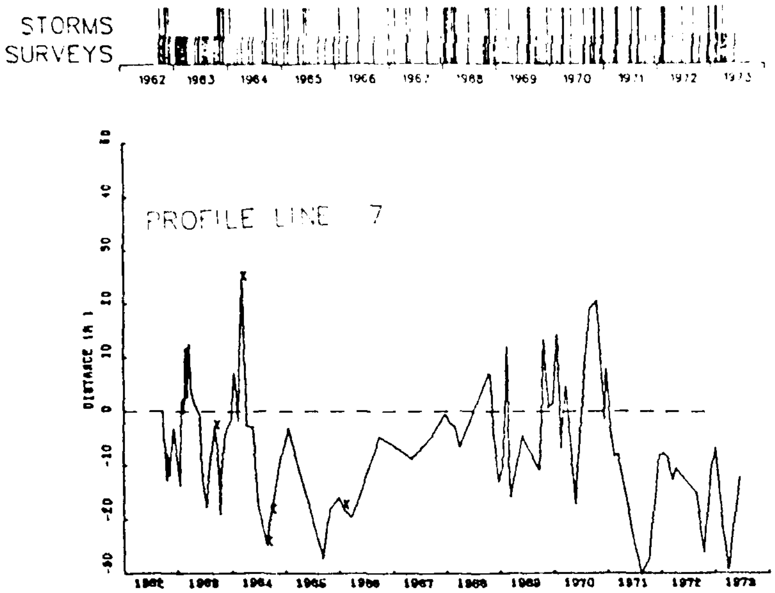
PROFILE LINE 6
DISTANCE (M)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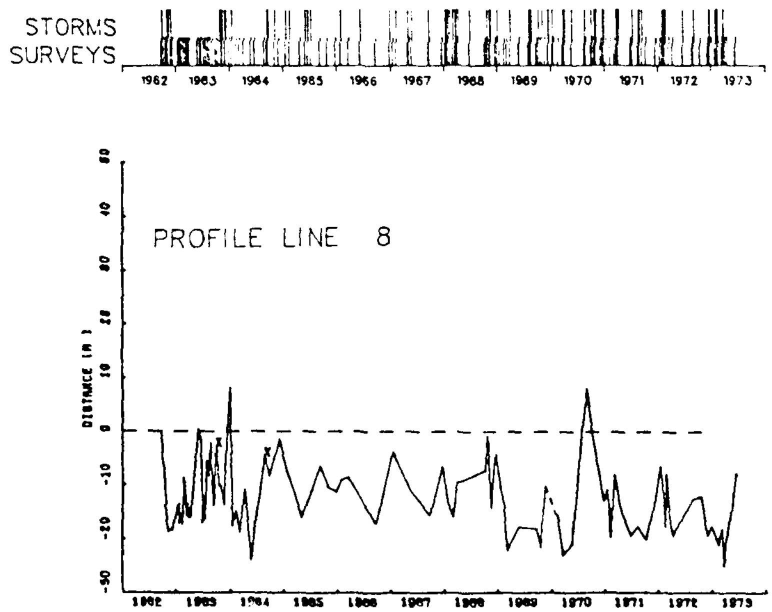
PROFILE LINE 7
DISTANCE (M)


STORMS
SURVEYS
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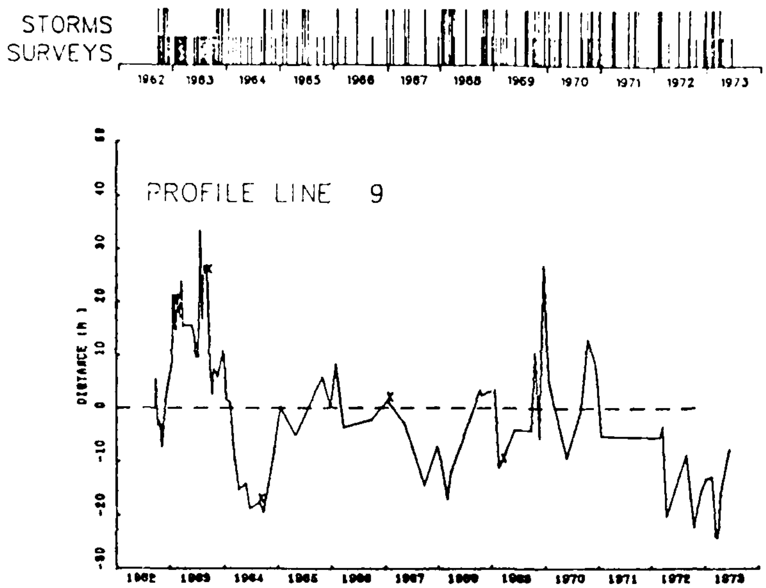
PROFILE LINE 8
DISTANCE (M)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SURVEYS
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PROFILE LINE 9
DISTANCE (M)
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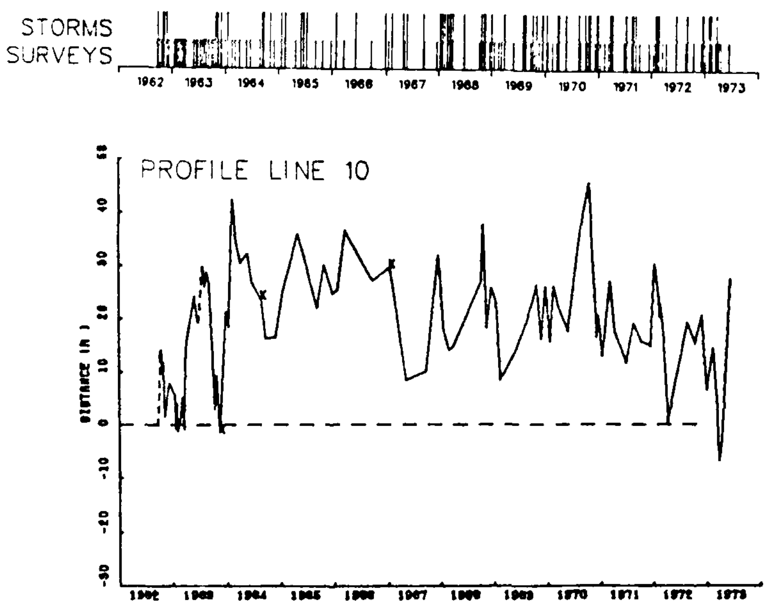
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SURVEYS
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PROFILE LINE 10
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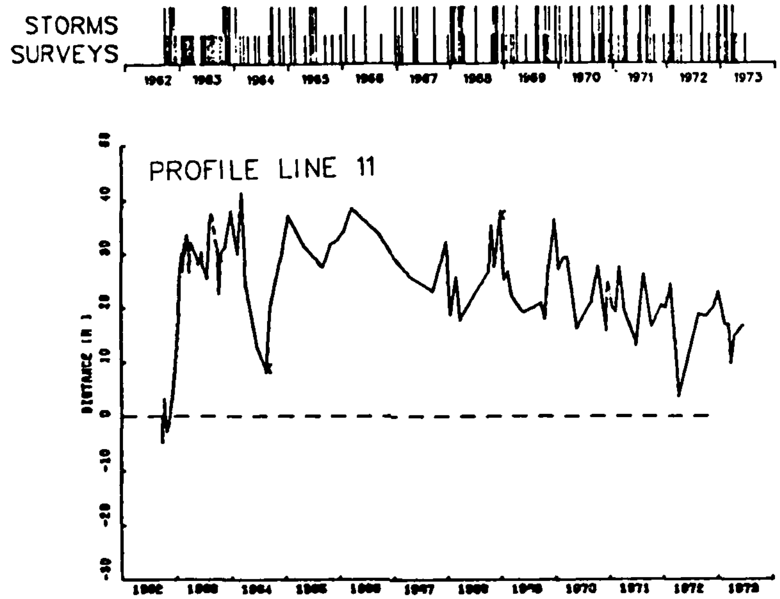
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SURVEYS
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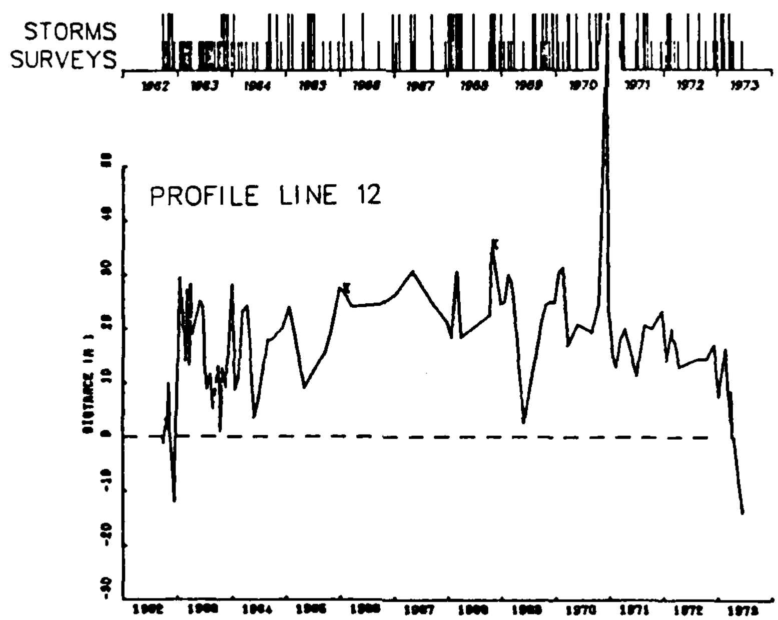
PROFILE LINE 11
DISTANCE (M)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SURVEYS
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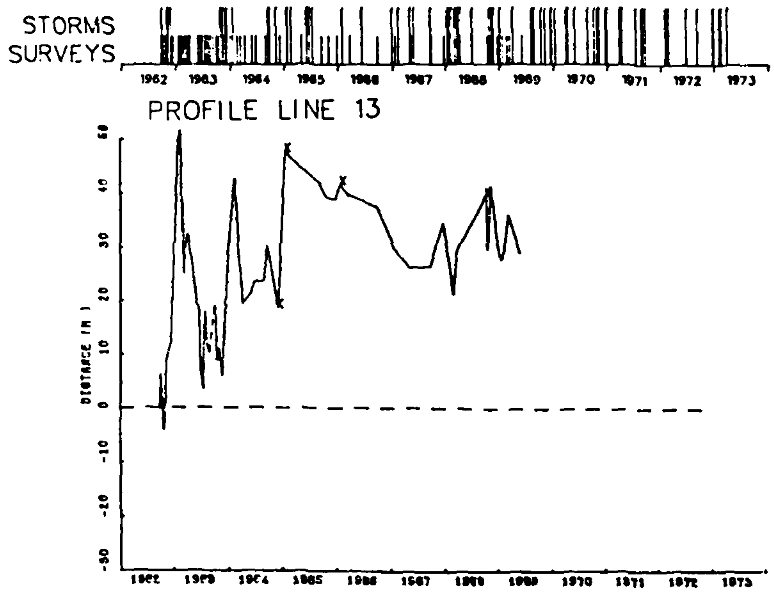
PROFILE LINE 12
DISTANCE (M)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SURVEYS
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PROFILE LINE 13
DISTANCE (M)
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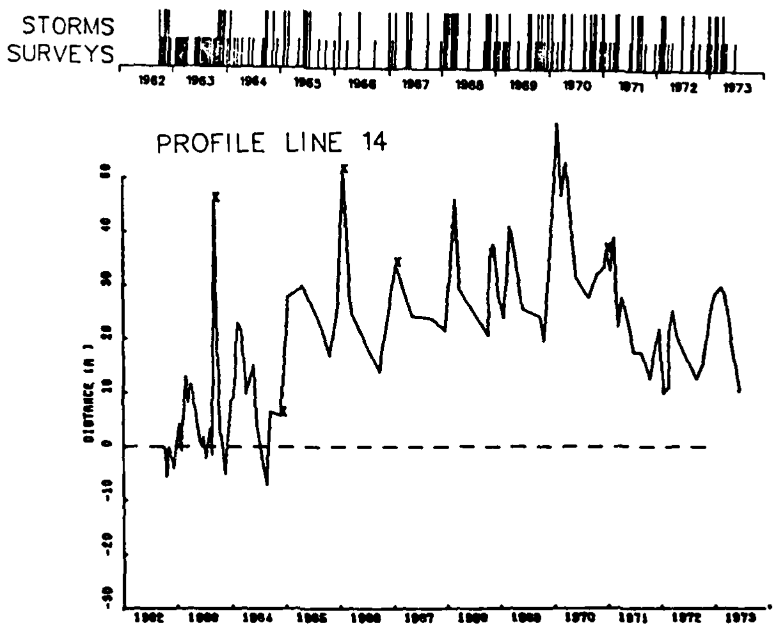
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PROFILE LINE 14
DISTANCE (M)
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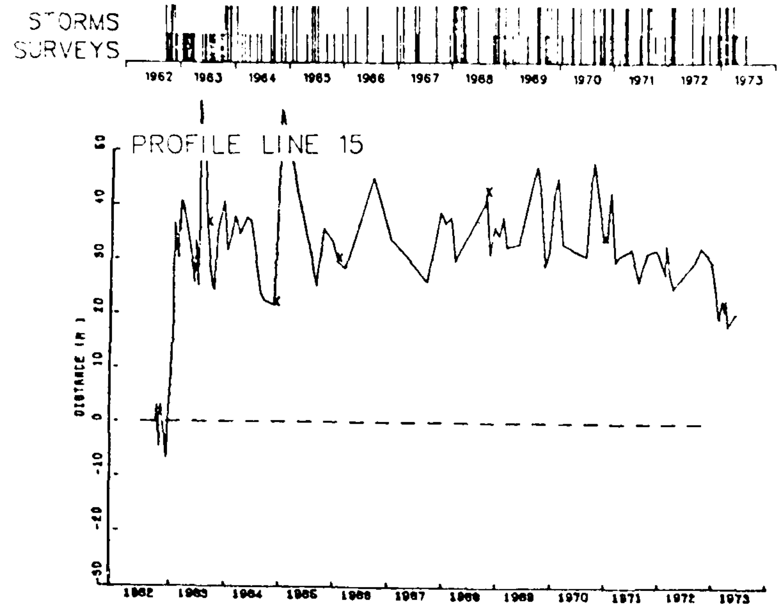
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SURVEYS
PROFILE LINE 15
DISTANCE (M)
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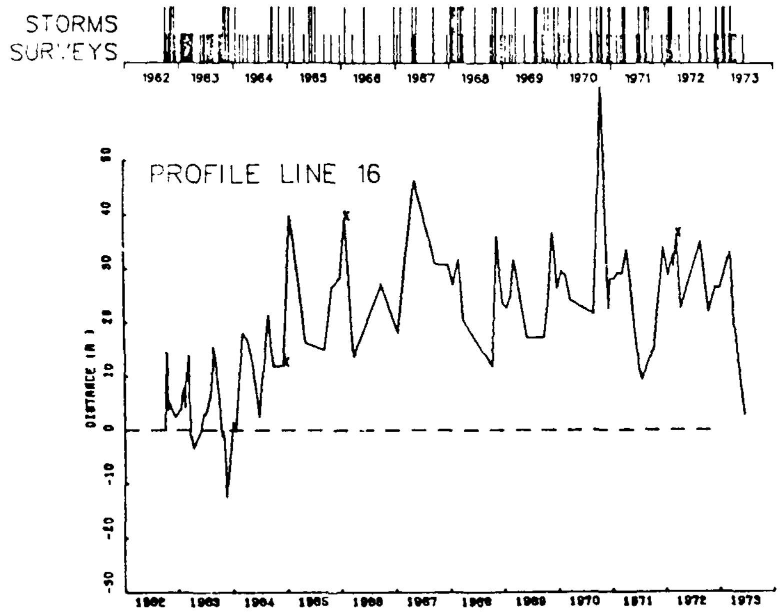
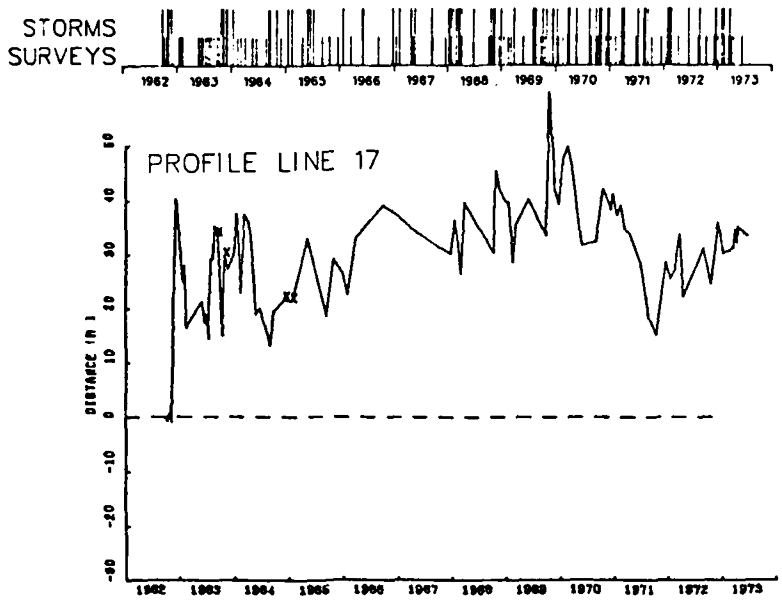

STORMS
SURVEYS
PROFILE LINE 16
DISTANCE (M)
1962 1963 1964 1965 1966 1967 1968 1969 1970 1971 1972 1973

AD-A101 844 SCIENCE APPLICATIONS INC RALEIGH NC F/G 13/2
BEACH CHANGES AT LONG BEACH ISLAND, NEW JERSEY, 1962-73.(U)
OCT 80 M C MILLER, D G AUBREY, J KARPEN DACW72-79-C-0020
UNCLASSIFIED CERC-MR-80-9 NL

2 4


STORMS
SURVEYS
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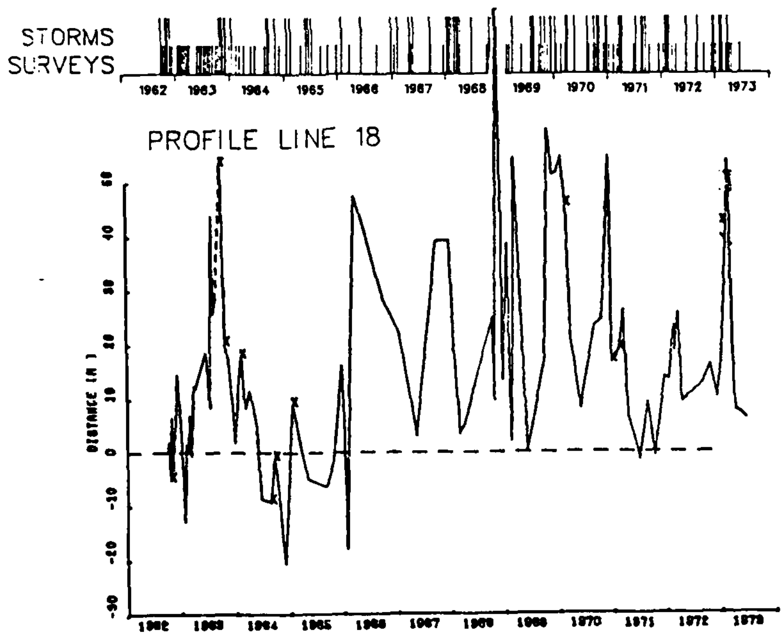
1973
PROFILE LINE 17
DISTANCE (M)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SURVEYS
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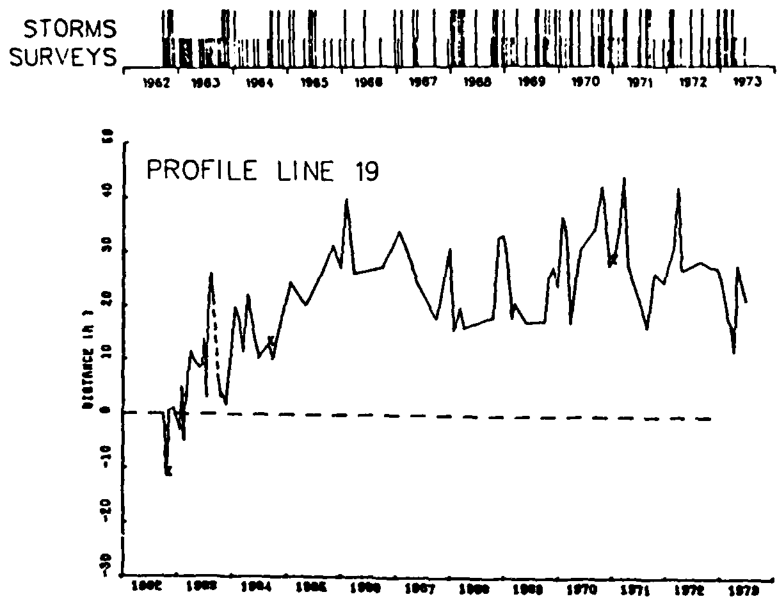
1973
PROFILE LINE 18
DISTANCE (M)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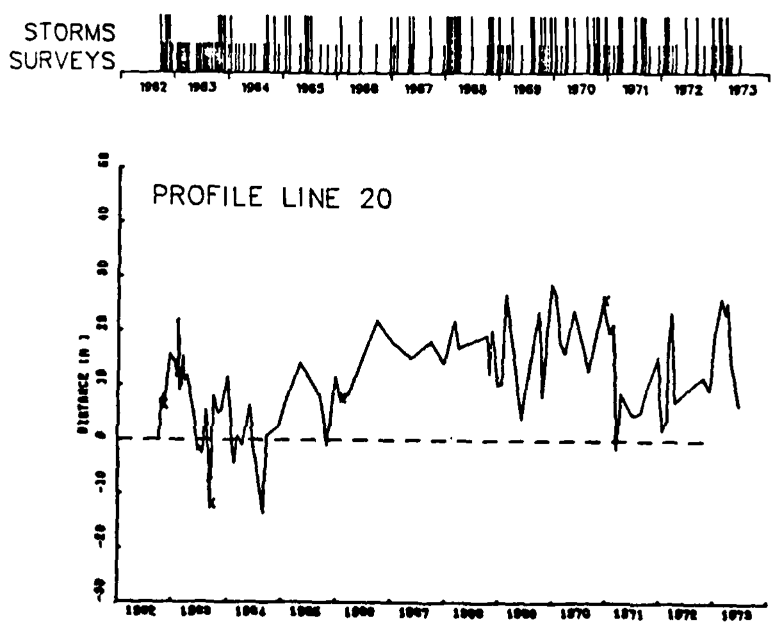
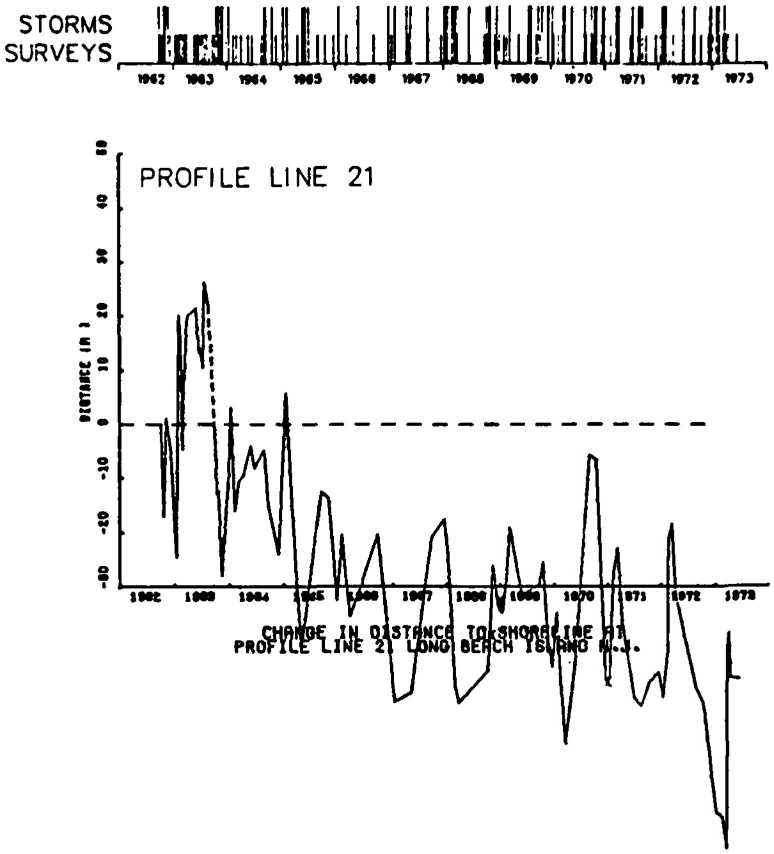
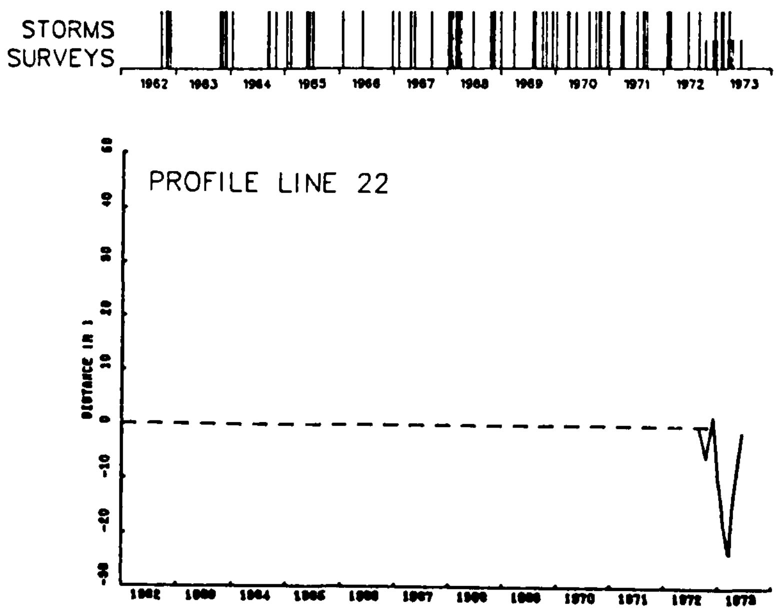
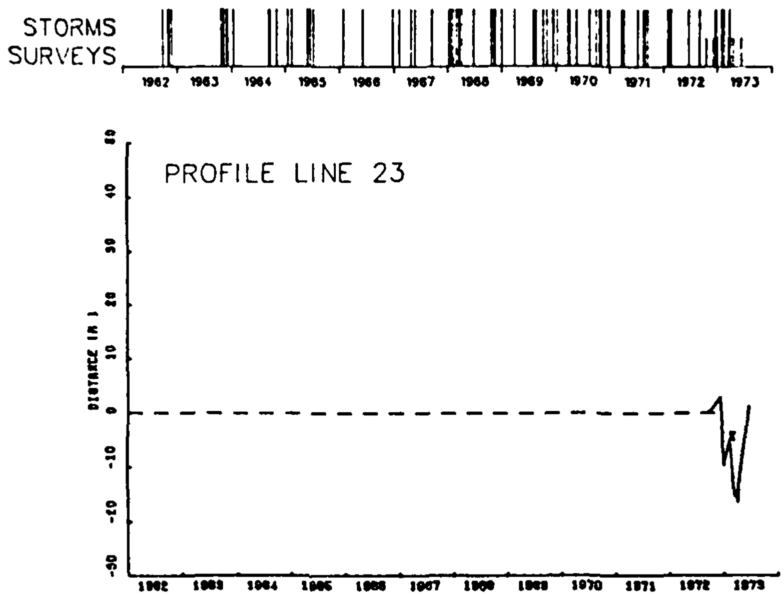
SURVEYS
PROFILE LINE 19
DISTANCE (ft)


STORMS
SURVEYS
PROFILE LINE 20
DISTANCE (ft)



CHANGE IN DISTANCE TO SHORELINE AT
PROFILE LINE 21 LONG BEACH ISLAND N.J.

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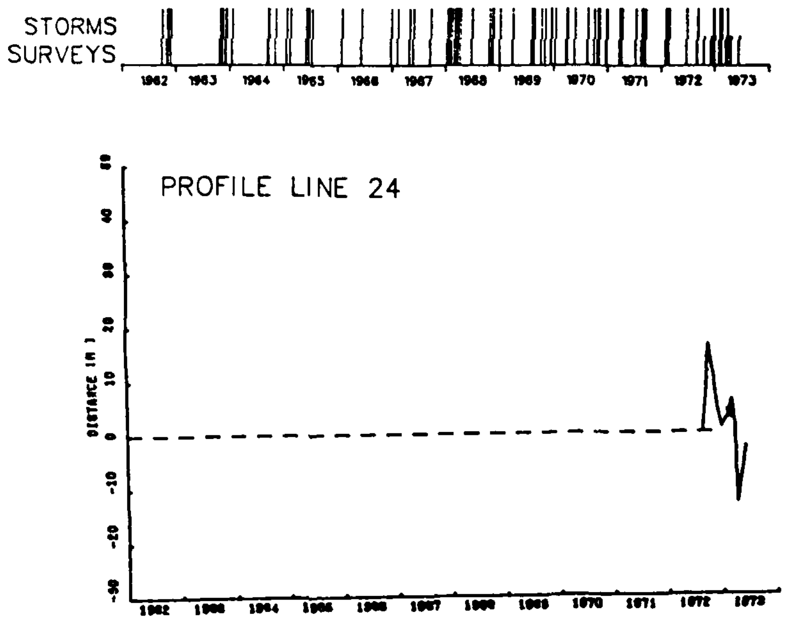
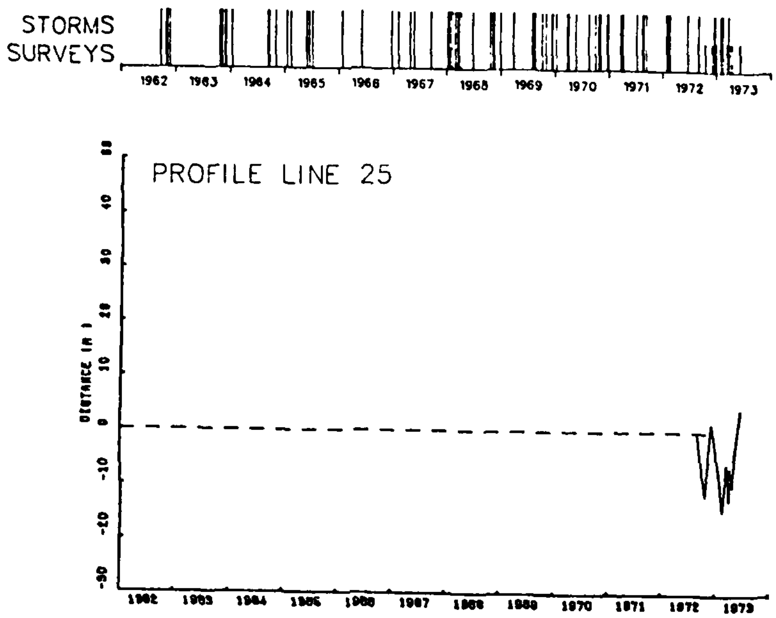
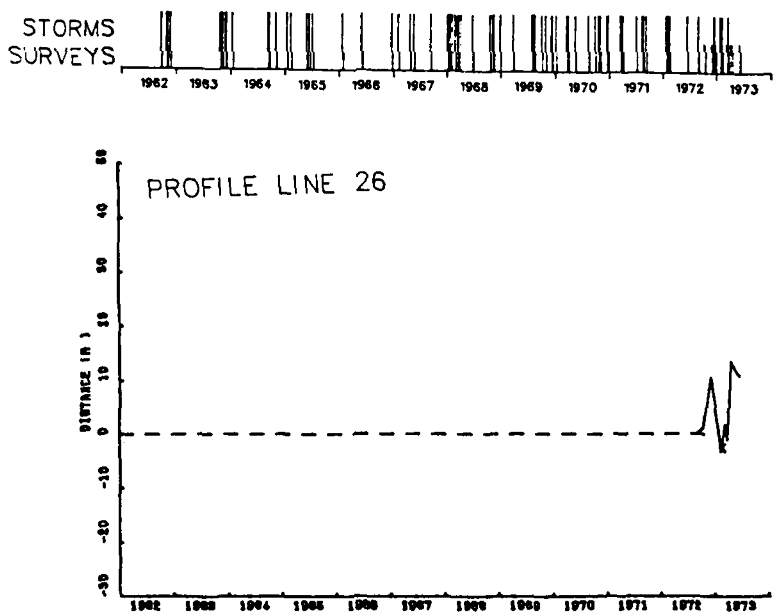
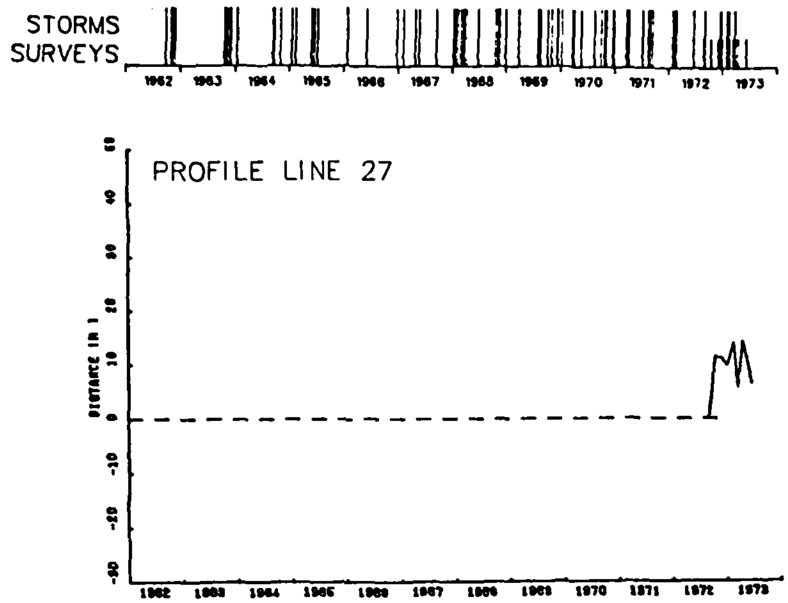
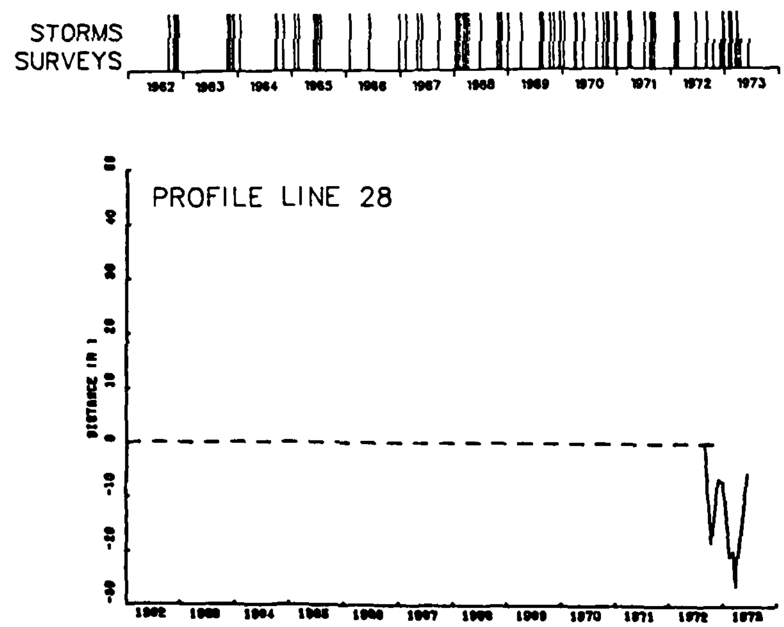
SURVEYS
1962 1963 1964 1965 1966 1967 1968 1969 1970 1971 1972 1973
PROFILE LINE 23
DISTANCE (M)

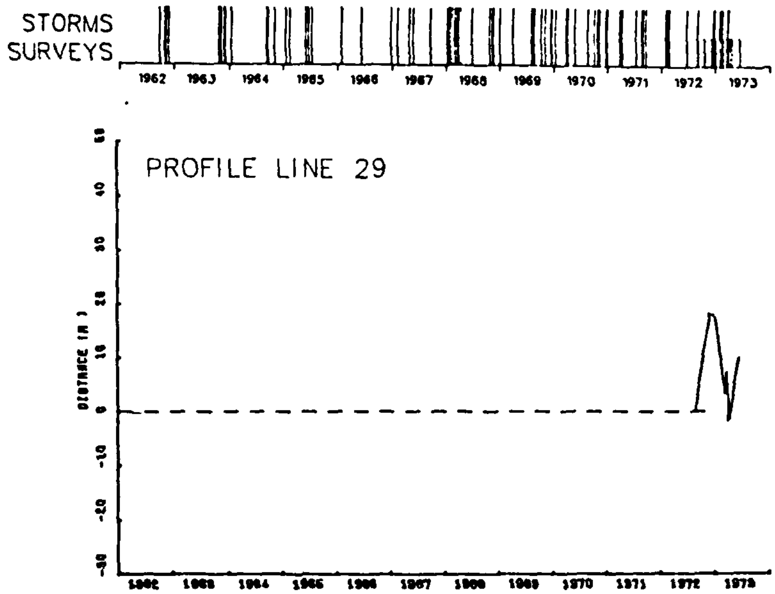

STORMS
SURVEYS
1962 1963 1964 1965 1966 1967 1968 1969 1970 1971 1972 1973
PROFILE LINE 24
DISTANCE (M)

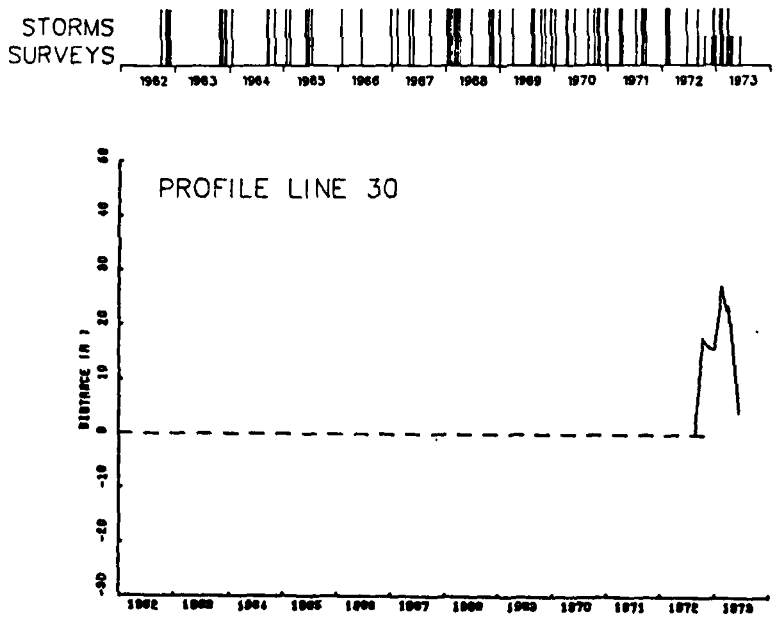

STORMS
SURVEYS
1962 1963 1964 1965 1966 1967 1968 1969 1970 1971 1972 1973
PROFILE LINE 25
DISTANCE (M)
50 40 30 20 10 0 -10 -20 -30

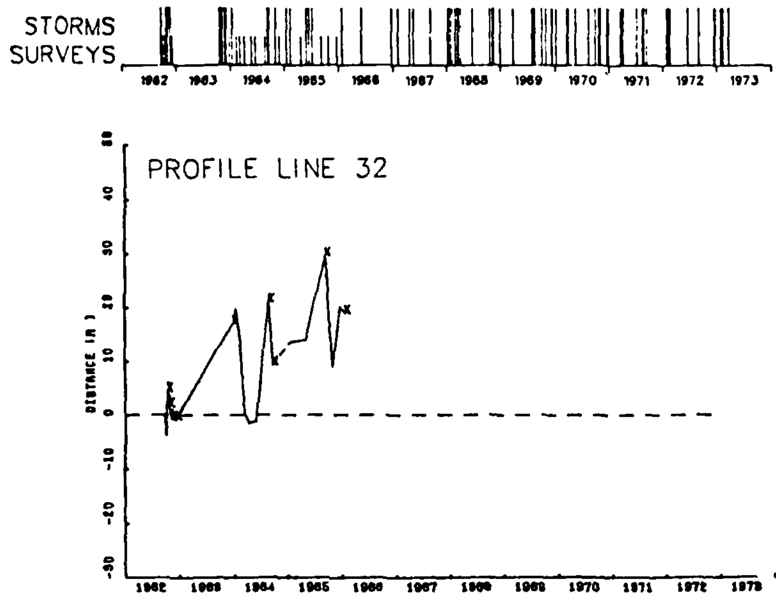

STORMS
SURVEYS
1962 1963 1964 1965 1966 1967 1968 1969 1970 1971 1972 1973
PROFILE LINE 26
DISTANCE (M)
50 40 30 20 10 0 -10 -20 -30

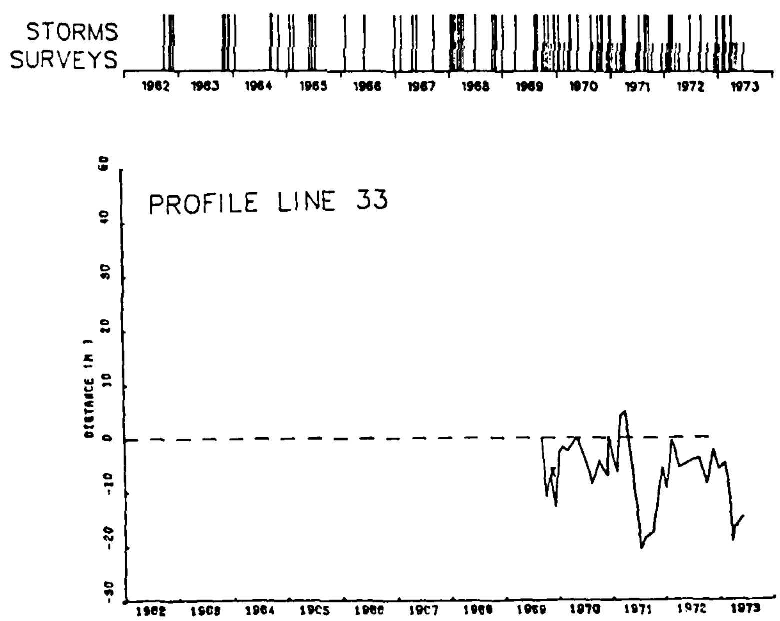

STORMS
SURVEYS
1962
1963
1964
1965
1966
1967
1968
1969
1970
1971
1972
1973
PROFILE LINE 27
DISTANCE (M)


STORMS
SURVEYS
1962
1963
1964
1965
1966
1967
1968
1969
1970
1971
1972
1973
PROFILE LINE 28
DISTANCE (M)


STORMS
SURVEYS
1962
1963
1964
1965
1966
1967
1968
1969
1970
1971
1972
1973
PROFILE LINE 29


STORMS
SURVEYS
1962
1963
1964
1965
1966
1967
1968
1969
1970
1971
1972
1973
PROFILE LINE 30


STORMS
SURVEYS
PROFILE LINE 32
DISTANCE (M)


STORMS
SURVEYS
PROFILE LINE 33
DISTANCE (M)

APPENDIX C

PROFILE LINE SURVEY DATA

The survey data for Long Beach Island are tabulated by profile line number and survey date (in the form YYMMDD). Distances are in feet from the profile line bench mark; elevations are in feet above or below MSL.

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 1

DATE	620926	DATE	620928	DATE	621011	DATE	621023	DATE	621029	DATE	621108	DATE	621210	DATE	630115
SRVY	1	SRVY	2	SRVY	4	SRVY	5	SRVY	6	SRVY	7	SRVY	8	SRVY	9
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
17.00	7.60	1.00	7.50	20.00	7.70	0.00	7.50	0.00	7.60	0.00	7.60	38.00	10.10	0.00	7.50
27.00	7.90	17.00	7.50	48.00	9.30	19.00	7.90	20.00	7.90	27.00	7.30	54.00	9.00	31.00	9.00
46.00	9.50	26.00	7.80	55.00	9.00	48.00	9.30	49.00	9.20	49.00	9.20	84.00	8.10	51.00	9.70
54.00	9.20	46.00	9.40	57.00	8.20	55.00	9.00	55.00	9.10	55.00	9.00	154.00	2.20	61.00	10.30
55.00	8.30	54.00	9.00	69.00	7.60	56.00	8.40	56.00	8.30	56.00	8.40	211.00	-1.60	70.00	8.30
65.00	7.60	57.00	8.30	125.00	7.10	76.00	7.60	75.00	7.20	63.00	7.80			103.00	6.50
85.00	7.40	65.00	7.40	148.00	7.10	115.00	7.20	154.00	7.30	109.00	7.90			151.00	3.50
116.00	7.20	117.00	7.10	166.00	5.00	150.00	7.40	201.00	-2.90	135.00	5.60			200.00	.40
136.00	5.40	157.00	3.40	190.00	.80	177.00	4.20			171.00	5.20			251.00	-1.00
150.00	4.00	199.00	-2.00	218.00	-.60	202.00	.70			220.00	-1.60				
177.00	2.20					223.00	-2.00								

PROFILE 1

DATE	630121	DATE	630128	DATE	630204	DATE	630212	DATE	630220	DATE	630226	DATE	630304	DATE	630311
SRVY	10	SRVY	11	SRVY	12	SRVY	13	SRVY	14	SRVY	15	SRVY	16	SRVY	17
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
127.00	5.00	0.00	7.50	70.00	8.30	72.00	8.40	105.00	6.30	100.00	6.80	96.00	6.90	100.00	6.00
200.00	.10	36.00	7.50	100.00	6.80	95.00	7.30	129.00	5.10	151.00	4.00	100.00	6.60	126.00	5.60
251.00	-2.10	41.00	11.00	150.00	4.00	101.00	6.50	151.00	3.40	174.00	1.90	126.00	5.70	151.00	3.60
		51.00	9.60	220.00	-.40	151.00	4.00	185.00	1.80	201.00	1.00	175.00	2.20	176.00	2.50
		56.00	11.30	251.00	-1.70	179.00	2.30	202.00	1.00	225.00	-.10	201.00	.20	201.00	-.10
		60.00	11.10			201.00	.40	225.00	-.60	251.00	-1.00	251.00	-1.90	227.00	-1.00
		71.00	8.30			251.00	-1.80	251.00	-1.20						
		102.00	6.50												
		123.00	4.60												
		151.00	3.20												
		176.00	2.40												
		220.00	-.70												
		251.00	-1.20												

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 1

DATE	630319	DATE	630326	DATE	630404	DATE	630528	DATE	630613	DATE	630625	DATE	630711	DATE	630723
SRVY	18	SRVY	19	SRVY	20	SRVY	21	SRVY	22	SRVY	23	SRVY	24	SRVY	25
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
0.00	7.50	71.00	8.40	72.00	8.50	0.00	7.60	150.00	5.60	75.00	8.30	175.00	5.90	75.00	8.40
35.00	7.50	101.00	6.50	126.00	5.30	30.00	7.60	181.00	5.30	100.00	6.00	202.00	4.60	100.00	6.00
41.00	11.00	141.00	5.00	141.00	5.00	45.00	10.50	201.00	4.20	150.00	5.70	225.00	2.70	120.00	5.90
49.00	9.80	175.00	1.50	150.00	3.80	50.00	10.00	251.00	0.00	175.00	5.90	301.00	-1.20	175.00	6.50
56.00	11.30	216.00	0.00	201.00	.20	57.00	12.20	279.00	-.50	226.00	3.20			200.00	3.80
73.00	8.40	252.00	-1.90	225.00	-.80	75.00	8.30			252.00	0.00			225.00	1.40
101.00	6.50			251.00	-1.20	101.00	6.60			276.00	-1.10			275.00	-.50
132.00	5.00					128.00	5.70							301.00	-1.40
176.00	2.30					181.00	5.40								
202.00	.20					201.00	3.80								
227.00	-.20					227.00	2.40								
251.00	-1.00					252.00	0.00								
						301.00	-.90								
						302.00	-1.00								

PROFILE 1

DATE	630806	DATE	630820	DATE	630906	DATE	630926	DATE	631010	DATE	631025	DATE	631115	DATE	631227
SRVY	26	SRVY	27	SRVY	28	SRVY	29	SRVY	30	SRVY	31	SRVY	32	SRVY	33
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
197.00	5.80	150.00	5.80	150.00	5.80	44.00	10.50	151.00	5.80	101.00	6.90	76.00	6.50	17.00	7.50
175.00	5.90	175.00	6.10	175.00	5.00	46.00	12.80	177.00	5.70	151.00	5.50	100.00	7.10	28.00	6.60
201.00	4.50	201.00	5.30	225.00	1.70	75.00	8.80	202.00	2.80	176.00	3.80	[illegible]	6.50	42.00	12.80
226.00	2.50	251.00	.50	267.00	0.00	101.00	6.80	227.00	1.00	202.00	1.40	202.00	-1.40	52.00	11.40
249.00	0.00			301.00	-1.30	126.00	6.00	253.00	.40	252.00	-1.30			61.00	9.00
277.00	-2.10					151.00	4.80							76.00	7.70
						177.00	2.90							101.00	6.90
						202.00	.40							117.00	6.80
														128.00	5.00
														151.00	2.80
														177.00	.40
														202.00	-1.90

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 1

DATE	640115	DATE	640212	DATE	640310	DATE	640407	DATE	640525	DATE	640623	DATE	640829	DATE	640924
SRVY	34	SRVY	35	SRVY	36	SRVY	37	SRVY	38	SRVY	39	SRVY	40	SRVY	41
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
-117.00	7.50	41.00	13.50	21.00	7.90	19.00	8.00	21.00	7.90	0.00	7.40	21.00	8.00	19.00	6.10
-76.00	7.40	65.00	8.70	44.00	12.40	45.00	12.80	40.00	12.90	15.00	7.70	40.00	12.50	37.00	12.[illegible]
-51.00	7.50	75.00	7.00	55.00	12.10	59.00	12.80	51.00	12.80	27.00	9.30	51.00	11.80	45.00	12.70
0.00	7.50	151.00	1.60	67.00	8.20	71.00	7.70	70.00	7.50	41.00	12.60	72.00	8.7[illegible]	68.00	9.[illegible]
20.00	7.90	202.00	-.80	101.00	5.60	102.00	5.40	101.00	5.40	53.00	12.60	117.00	6.10	93.00	7.70
41.00	13.50	223.00	-1.60	152.00	2.00	152.00	2.10	127.00	4.40	68.00	8.50	126.00	4.40	122.00	5.[illegible]
66.00	8.30			183.00	-.10	180.00	-.10	152.00	1.70	126.00	3.60	177.00	-.70	155.00	1.4[illegible]
101.00	5.30			202.00	-1.20	202.00	-2.00	177.00	-1.50	177.00	-2.[illegible]			172.00	-.40
152.00	2.50			220.00	-2.00	228.00	-3.10	202.00	-2.30						
177.00	.60														
202.00	-.50														
228.00	-2.20														

PROFILE 1

DATE	641201	DATE	650119	DATE	650427	DATE	650907	DATE	651027	DATE	651222	DATE	660125	DATE	660321
SRVY	42	SRVY	43	SRVY	44	SRVY	45	SRVY	46	SRVY	47	SRVY	48	SRVY	49
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
19.00	8.50	51.00	11.70	46.00	12.90	47.00	12.60	47.00	12.40	44.00	12.10	-1.00	7.[illegible]	37.00	12.[illegible]
38.00	11.90	51.00	10.30	52.00	12.10	60.00	8.70	61.00	8.60	63.00	8.70	20.00	7.5[illegible]	48.00	[illegible]
45.00	12.80	57.00	7.10	66.00	7.10	75.00	6.60	101.00	6.00	78.00	8.00	45.00	9.60	58.00	9.1[illegible]
63.00	9.40	78.00	4.70	101.00	1.60	91.00	7.20	202.00	-.30	101.00	4.70	60.00	9.30	75.00	[illegible]
90.00	8.00	126.00	1.00	126.00	.60	101.00	5.70	210.00	-.80	127.00	2.60	82.00	7.00	100.00	5.3[illegible]
101.00	6.80	151.00	-.20	151.00	-2.60	151.00	-.20			152.00	.10	101.00	4.20	126.00	3.[illegible]
126.00	5.40	177.00	-1.90	177.00	-3.20	166.00	-1.20			177.00	-1.30	127.00	2.2[illegible]	151.00	.[illegible]
152.00	1.00	192.00	-2.20							202.00	-3.00	151.00	1.50	176.00	-1.[illegible]
177.00	0.00													2[illegible]1.00	-2.[illegible]
202.00	-2.90														

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 1

DATE	660922	DATE	670116	DATE	670505	DATE	670920	DATE	671218	DATE	680117	DATE	680227	DATE	680327
SRVY	50	SRVY	51	SRVY	52	SRVY	54	SRVY	55	SRVY	56	SRVY	57	SRVY	58
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
18.00	8.40	26.00	9.10	22.00	8.20	20.00	7.40	0.00	7.60	0.00	7.80	-1.00	7.70	0.00	7.70
34.00	10.40	40.00	10.60	28.00	11.30	43.00	11.20	27.00	8.20	25.00	9.00	25.00	8.90	25.00	7.70
47.00	9.30	50.00	9.10	43.00	11.00	56.00	9.00	40.00	13.10	37.00	14.40	39.00	13.30	44.00	14.30
59.00	8.80	75.00	7.30	53.00	11.30	100.00	6.40	45.00	12.40	60.00	9.70	49.00	14.50	51.00	14.00
75.00	7.50	100.00	6.00	56.00	8.30	125.00	5.90	55.00	10.00	151.00	5.30	64.00	9.20	62.00	9.40
104.00	7.60	126.00	4.20	75.00	6.40	150.00	5.00	75.00	8.00	176.00	4.20	75.00	8.30	100.00	7.20
130.00	5.00	151.00	1.90	101.00	3.20	178.00	1.80	125.00	7.00	250.00	0.00	100.00	7.40	150.00	6.10
152.00	3.40	175.00	0.00	120.00	2.00	226.00	-1.90	150.00	5.10	275.00	-2.10	126.00	6.90	181.00	5.00
201.00	-1.30	201.00	-3.00	151.00	-.20			176.00	4.00			151.00	5.20	275.00	-3.20
222.00	-2.30			175.00	-1.90			201.00	3.20			176.00	2.50		
				201.00	-3.40			226.00	1.50			200.00	2.20		
								250.00	-.90			226.00	1.00		
								276.00	-2.60			250.00	-.30		

PROFILE 1

DATE	681009	DATE	681023	DATE	681113	DATE	681218	DATE	690115	DATE	690213	DATE	690304	DATE	690528
SRVY	59	SRVY	60	SRVY	61	SRVY	62	SRVY	63	SRVY	64	SRVY	65	SRVY	66
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
22.00	8.00	20.00	7.90	20.00	7.80	0.00	7.70	25.00	8.10	25.00	8.20	46.00	14.10	25.00	7.50
40.00	12.90	40.00	12.20	40.00	13.90	25.00	7.90	45.00	14.60	45.00	15.10	55.00	13.20	43.00	13.60
50.00	12.60	50.00	13.00	48.00	13.50	42.00	13.70	52.00	13.90	52.00	13.50	70.00	9.20	52.00	13.10
70.00	9.20	65.00	9.40	57.00	10.60	52.00	13.40	68.00	8.90	64.00	9.90	100.00	7.30	69.00	9.10
100.00	7.50	75.00	8.50	100.00	6.90	65.00	9.80	100.00	6.80	75.00	8.60	150.00	4.70	100.00	6.60
150.00	7.20	100.00	7.50	150.00	4.90	100.00	6.80	140.00	5.60	100.00	7.00	200.00	2.60	125.00	6.00
173.00	7.70	125.00	6.90	200.00	3.40	150.00	5.20	175.00	3.40	125.00	6.20	250.00	1.10	153.00	5.50
175.00	5.70	150.00	7.40	250.00	-.40	175.00	4.20	200.00	2.20	150.00	5.00			178.00	5.10
200.00	3.00	168.00	7.80	260.00	-1.60	200.00	2.20	225.00	1.00	175.00	3.80			200.00	3.40
225.00	1.00	172.00	6.30			225.00	-.40	250.00	-1.40	200.00	1.80			250.00	-1.60
250.00	-1.10	200.00	2.90			250.00	-1.30	275.00	-2.40	225.00	.30			265.00	-4.00
260.00	-1.90	225.00	.50			275.00	-2.10			250.00	-1.30				
		250.00	-1.40			300.00	-3.20			275.00	-3.30				
		275.00	-2.40												

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 1

DATE 690924		DATE 691020		DATE 691118		DATE 691218		DATE 700120		DATE 700218		DATE 700319		DATE 700521	
SRVY	67	SRVY	68	SRVY	69	SRVY	70	SRVY	71	SRVY	72	SRVY	73	SRVY	74
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
25.00	8.50	25.00	8.50	17.00	8.10	14.00	8.10	13.00	8.40	22.00	9.10	0.00	7.70	53.00	7.70
42.00	14.40	45.00	14.40	44.00	14.30	43.00	14.40	45.00	14.50	45.00	13.70	21.00	8.50	53.00	14.50
50.00	13.30	54.00	12.80	52.00	13.10	52.00	13.40	68.00	9.20	50.00	14.30	50.00	12.50	100.00	15.30
79.00	8.00	69.00	9.40	69.00	9.30	81.00	8.30	100.00	6.50	71.00	9.70	69.00	13.00	110.00	15.30
100.00	7.10	91.00	7.40	100.00	7.50	100.00	7.40	103.00	4.90	100.00	6.50	100.00	8.90	150.00	6.80
115.00	6.60	119.00	6.60	118.00	6.80	128.00	6.20	150.00	4.20	150.00	3.50	150.00	6.30	200.00	5.20
155.00	7.30	147.00	7.60	150.00	4.30	148.00	6.00	200.00	.40	200.00	.50	200.00	4.60	250.00	5.50
175.00	5.20	175.00	4.50	175.00	2.60	175.00	4.00	250.00	-2.60	240.00	-2.00	250.00	2.80	266.00	5.60
200.00	3.10	200.00	2.30	200.00	.60	200.00	1.40					300.00	.50	300.00	2.30
225.00	1.70	225.00	-.40	225.00	-1.60	225.00	-.70					350.00	-2.90	350.00	-.40
250.00	.40	250.00	-1.60	250.00	-2.70	250.00	-2.10							378.00	-2.40
275.00	-2.20	275.00	-3.00	275.00	-3.90	275.00	-3.70								
		300.00	-4.20												

PROFILE 1

DATE 700828		DATE 701012		DATE 701207		DATE 701218		DATE 710112		DATE 710208		DATE 710308		DATE 710418	
SRVY	75	SRVY	76	SRVY	77	SRVY	78	SRVY	79	SRVY	80	SRVY	81	SRVY	82
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
0.00	7.70	0.00	7.70	17.00	7.90	0.00	7.60	17.00	8.30	17.00	8.10	20.00	8.20	0.00	7.70
18.00	7.80	18.00	8.00	46.00	13.20	25.00	8.70	44.00	13.30	50.00	14.00	44.00	13.10	20.00	7.70
45.00	15.50	43.00	13.20	52.00	14.40	47.00	14.40	51.00	14.10	55.00	13.50	50.00	14.90	40.00	13.40
53.00	13.00	52.00	13.00	71.00	9.30	50.00	14.10	75.00	8.80	66.00	9.80	53.00	14.90	50.00	13.40
75.00	8.60	100.00	6.40	100.00	8.10	67.00	9.30	100.00	6.30	75.00	8.40	74.00	8.40	65.00	10.00
100.00	6.40	131.00	7.40	125.00	6.30	100.00	6.10	125.00	5.40	100.00	6.00	100.00	6.10	100.00	6.30
134.00	7.00	150.00	4.50	150.00	5.30	125.00	4.90	150.00	3.70	125.00	4.20	125.00	4.70	150.00	5.70
139.00	5.70	175.00	1.80	175.00	4.30	150.00	4.10	175.00	1.70	150.00	3.00	150.00	4.00	200.00	1.10
150.00	3.70	200.00	0.00	200.00	2.70	175.00	2.90	200.00	-.30	175.00	1.80	175.00	2.20	250.00	-2.40
175.00	-.40	225.00	-.90	225.00	.60	200.00	1.50	225.00	-1.30	200.00	.20	200.00	.60		
200.00	-1.50	250.00	-2.10	250.00	-1.10	225.00	.20	250.00	-2.70	225.00	-1.90	225.00	-1.20		
225.00	-2.30			275.00	-2.40	250.00	-1.30	275.00	-3.30			250.00	-2.00		
250.00	-3.20					266.00	-2.50								

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 1

DATE	710624	DATE	710817	DATE	711007	DATE	711214	DATE	720112	DATE	720215	DATE	720225	DATE	720313
SRVY	83	SRVY	85	SRVY	86	SRVY	87	SRVY	88	SRVY	89	SRVY	90	SRVY	91
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
0.00	7.60	0.00	8.00	11.00	7.90	15.00	8.20	13.00	8.00	16.00	8.10	25.00	8.00	25.00	8.00
17.00	8.30	31.00	13.00	42.00	13.60	31.00	12.50	31.00	12.50	34.00	12.40	37.00	12.00	40.00	12.20
29.00	12.60	49.00	14.10	78.00	8.20	49.00	14.40	49.00	14.50	43.00	12.80	48.00	14.40	52.00	14.30
36.00	12.90	80.00	7.40	100.00	7.40	63.00	11.80	62.00	12.10	53.00	14.60	64.00	12.80	62.00	13.00
43.00	14.30	100.00	6.50	128.00	7.70	77.00	8.40	67.00	10.20	63.00	13.10	75.00	7.60	82.00	7.20
59.00	12.50	134.00	7.10	150.00	5.80	100.00	7.80	100.00	7.80	71.00	9.70	100.00	4.80	100.00	5.70
67.00	11.00	150.00	5.30	200.00	-.20	150.00	3.50	115.00	7.10	100.00	6.40	150.00	3.50	107.00	5.00
91.00	6.90	175.00	2.80	250.00	-2.90	175.00	1.40	150.00	3.40	150.00	3.40	200.00	1.80	175.00	2.50
100.00	6.60	200.00	.10			200.00	-.90	175.00	1.20	200.00	1.20	250.00	-2.20	200.00	1.00
125.00	6.60	225.00	-1.60			250.00	-2.60	200.00	-.30	250.00	-2.10			225.00	-1.40
150.00	6.30	250.00	-2.30					225.00	-1.60					250.00	-2.30
200.00	0.00							245.00	-2.60						
250.00	2.10														

PROFILE 1

DATE	720411	DATE	720823	DATE	721017	DATE	721205	DATE	730103	DATE	730213	DATE	730315	DATE	73[illegible]
SRVY	92	SRVY	93	SRVY	94	SRVY	95	SRVY	96	SRVY	97	SRVY	98	SRVY	[illegible]
TIME	1200	TIME	1000	TIME	800	TIME	900	TIME	900	TIME	900	TIME	1100	TIME	[illegible]
25.00	8.30	19.00	7.90	20.00	8.30	28.00	8.30	0.00	7.70	25.00	8.10	25.00	7.70	20.00	7.90
39.00	12.00	52.00	15.20	48.00	14.80	43.00	15.10	25.00	7.80	45.00	16.80	49.00	16.00	49.00	17.40
47.00	13.80	61.00	13.80	54.00	15.40	57.00	14.60	47.00	15.00	50.00	15.50	52.00	14.80	93.00	8.20
52.00	13.40	80.00	8.20	62.00	14.40	87.00	7.80	54.00	15.30	66.00	13.00	65.00	13.40	100.00	7.50
65.00	12.50	100.00	7.10	72.00	10.20	100.00	6.40	67.00	12.90	71.00	8.60	86.00	8.40	150.00	[illegible]
72.00	9.00	150.00	6.20	98.00	7.20	150.00	6.60	90.00	7.80	100.00	7.60	100.00	7.00	200.00	7.10
100.00	6.50	200.00	6.00	150.00	6.70	200.00	7.00	100.00	6.90	150.00	7.00	150.00	6.80	250.00	4.60
150.00	4.00	225.00	6.30	200.00	7.40	250.00	7.20	150.00	7.20	191.00	7.20	200.00	6.70	300.00	.70
200.00	.30	250.00	3.90	238.00	6.00	275.00	5.40	200.00	6.90	200.00	6.70	250.00	5.50	350.00	-.50
250.00	-2.70	275.00	1.90	268.00	5.30	300.00	3.30	250.00	5.90	250.00	4.30	300.00	3.90		
		300.00	-1.10	269.00	4.40	325.00	1.20	300.00	2.60	300.00	2.10	350.00	-.70		
		310.00	-3.10	300.00	2.00	345.00	-1.20	325.00	.50	350.00	-.70	375.00	-3.90		
				325.00	0.00			350.00	-2.40						
				347.00	-2.50										

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 1

DATE	730402	DATE	730417	DATE	730612
SRVY	100	SRVY	101	SRVY	103
TIME	1100	TIME	1000	TIME	900
25.00	7.80	23.00	7.90	22.00	7.70
48.00	17.50	47.00	16.20	47.00	16.00
57.00	15.00	55.00	17.30	54.00	17.70
93.00	8.00	78.00	10.40	79.00	10.60
100.00	7.30	100.00	7.40	100.00	7.80
150.00	6.70	150.00	6.80	150.00	6.50
200.00	6.40	200.00	6.80	200.00	6.40
250.00	4.60	250.00	5.40	250.00	5.60
300.00	2.50	296.00	4.50	300.00	6.10
350.00	.20	325.00	1.50	317.00	6.20
375.00	-3.50	350.00	-1.60	350.00	2.10
				375.00	-1.10

PROFILE 2

DATE	620926	DATE	620928	DATE	621011	DATE	621023	DATE	621029	DATE	621108	DATE	621210	DATE	630115
SRVY	1	SRVY	2	SRVY	4	SRVY	5	SRVY	6	SRVY	7	SRVY	8	SRVY	9
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
-11.00	10.50	27.00	13.20	20.00	12.50	20.00	12.60	18.00	12.60	17.00	12.60	22.00	12.50	-1.00	12.00
27.00	13.20	34.00	10.80	38.00	9.60	38.00	9.70	39.00	9.80	36.00	10.20	39.00	9.90	15.00	12.70
38.00	8.50	38.00	9.60	59.00	8.90	61.00	8.80	61.00	8.90	70.00	8.70	72.00	8.40	50.00	9.00
57.00	7.30	62.00	8.90	68.00	7.60	69.00	7.60	71.00	7.50	110.00	5.70	106.00	6.10	65.00	5.50
90.00	7.20	68.00	8.60	102.00	7.50	100.00	7.50	103.00	7.60	148.00	5.20	195.00	3.60	226.00	-1.50
130.00	7.50	97.00	7.50	137.00	7.70	135.00	8.10	134.00	8.00	172.00	2.90	226.00	-1.90		
140.00	7.20	135.00	7.20	158.00	5.50	166.00	4.50	165.00	4.50	193.00	1.50				
160.00	5.70	157.00	4.60	188.00	2.20	189.00	2.00	203.00	0.00						
180.00	3.60	175.00	2.50	227.00	-2.10	218.00	-1.90	240.00	-3.20						
200.00	2.00	190.00	.70												

PROFILE 2

DATE	630121	DATE	630128	DATE	630204	DATE	630212	DATE	630220	DATE	630226	DATE	630304	DATE	630311
SRVY	10	SRVY	11	SRVY	12	SRVY	13	SRVY	14	SRVY	15	SRVY	16	SRVY	17
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
100.00	7.00	25.00	11.50	100.00	7.00	25.00	11.50	101.00	7.00	101.00	7.00	77.00	8.60	100.00	6.90
200.00	-.90	50.00	9.50	151.00	3.40	38.00	9.60	127.00	5.90	151.00	4.80	100.00	6.90	128.00	6.20
		75.00	9.00	176.00	1.00	79.00	8.90	151.00	3.80	201.00	-.40	150.00	5.80	175.00	4.30
		130.00	4.40	226.00	-1.50	101.00	6.90	188.00	1.10	227.00	-1.60	175.00	3.70	200.00	1.30
		150.00	2.80			126.00	6.30	227.00	-1.40			200.00	.90	225.00	-.60
		175.00	2.30			151.00	3.90					225.00	-.10	243.00	-1.60
		226.00	-1.50			226.00	-1.60					250.00	-1.10		

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 2

DATE	630319	DATE	630326	DATE	630404	DATE	630528	DATE	630613	DATE	630625	DATE	630711	DATE	630723
SRVY	16	SRVY	19	SRVY	20	SRVY	21	SRVY	22	SRVY	23	SRVY	24	SRVY	25
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
176.00	4.20	100.00	6.90	100.00	6.90	0.00	12.00	50.00	9.00	50.00	9.10	119.00	6.90	100.00	7.00
225.00	-.50	126.00	6.40	126.00	6.40	25.00	12.50	74.00	8.40	75.00	8.60	151.00	7.10	126.00	7.10
251.00	-1.80	151.00	6.50	150.00	6.50	31.00	10.20	101.00	6.90	100.00	7.00	201.00	2.90	151.00	5.60
		176.00	5.40	176.00	5.10	50.00	9.00	120.00	7.10	126.00	7.00	226.00	.90	175.00	2.50
		201.00	2.80	227.00	0.00	75.00	8.80	141.00	7.20	142.00	7.30	251.00	-1.40	201.00	1.50
		226.00	.10	251.00	-1.70	99.00	6.80	145.00	6.40	176.00	4.00			227.00	-.60
		251.00	-2.10			147.00	6.90	175.00	3.10	201.00	1.20				
						175.00	3.00	250.00	-1.40	224.00	-.50				
						226.00	-1.20			251.00	-1.20				

PROFILE 2

DATE	630806	DATE	630820	DATE	630906	DATE	630926	DATE	631010	DATE	631025	DATE	631115	DATE	631227
SRVY	26	SRVY	27	SRVY	28	SRVY	29	SRVY	30	SRVY	31	SRVY	32	SRVY	33
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
75.00	8.60	76.00	8.50	100.00	7.10	-1.00	12.00	100.00	7.40	49.00	9.20	76.00	[illegible]	24.00	12.40
101.00	8.00	100.00	7.10	125.00	7.30	20.00	12.90	126.00	7.10	75.00	9.00	126.00	[illegible]	39.00	11.80
151.00	6.20	126.00	7.10	150.00	6.10	25.00	12.50	175.00	.60	102.00	7.60	152.00	[illegible]	52.00	5.50
175.00	4.50	150.00	6.30	175.00	3.40	36.00	10.10	201.00	-1.00	150.00	2.50	176.00	[illegible]	111.00	5.60
201.00	1.50	178.00	3.10	226.00	.30	76.00	8.80			202.00	-1.50	202.00	-1.30	127.00	[illegible]
225.00	-1.50	201.00	1.00			151.00	3.80							152.00	[illegible]
251.00	-2.20	251.00	-2.40			202.00	-.30							177.00	.30
														192.00	-.10
														202.00	-1.10
														224.00	-2.00

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 2

DATE 640115		DATE 640212		DATE 640310		DATE 640407		DATE 640525		DATE 640623		DATE 640829		DATE 640924	
SRVY	34	SRVY	35	SRVY	36	SRVY	37	SRVY	38	SRVY	39	SRVY	40	SRVY	41
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
-303.00	7.50	51.00	9.60	1.00	11.80	25.00	12.10	10.00	12.10	24.00	12.20	40.00	12.40	-302.00	7.60
-276.00	7.90	76.00	7.00	26.00	12.10	46.00	12.80	24.00	12.30	49.00	12.80	51.00	11.90	-277.00	7.90
-223.00	7.40	101.00	5.90	47.00	11.90	63.00	8.50	45.00	13.20	50.00	12.50	53.00	9.90	-225.00	7.50
-202.00	7.70	128.00	3.70	62.00	8.60	76.00	7.40	64.00	8.00	60.00	8.50	77.00	7.80	-200.00	7.90
-152.00	7.80	181.00	0.00	75.00	7.10	101.00	6.20	76.00	7.50	101.00	6.70	101.00	6.70	-150.00	7.80
-127.00	7.60	203.00	-1.20	101.00	5.70	127.00	4.70	102.00	6.00	126.00	5.00	132.00	7.50	-125.00	7.50
-50.00	9.80	228.00	-1.80	126.00	5.10	152.00	2.00	126.00	4.30	151.00	1.90	152.00	3.90	-26.00	10.90
-25.00	10.40			152.00	3.10	203.00	-1.40	152.00	2.00	177.00	-.90	177.00	2.00	1.00	12.10
0.00	11.90			202.00	-.90	227.00	-2.90	177.00	-.60	202.00	-2.40	202.00	-.30	25.00	12.40
24.00	12.50			223.00	-1.70			202.00	-2.70					42.00	12.80
39.00	11.40													51.00	12.00
48.00	11.20													61.00	9.60
51.00	9.60													79.00	6.40
76.00	6.60													127.00	2.00
101.00	4.70													143.00	1.00
128.00	3.70													162.00	.20
153.00	2.30														
202.00	-.10														
229.00	-1.00														
253.00	-2.00														

PROFILE 2

DATE 641201		DATE 650119		DATE 650427		DATE 650907		DATE 651027		DATE 651222		DATE 660125		DATE 660321	
SRVY	42	SRVY	43	SRVY	44	SRVY	45	SRVY	46	SRVY	47	SRVY	48	SRVY	49
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
25.00	12.20	25.00	12.10	48.00	13.20	45.00	13.20	45.00	13.10	45.00	13.10	-1.00	11.90	32.00	12.10
36.00	12.20	55.00	11.80	62.00	9.60	57.00	9.70	57.00	4.70	60.00	9.20	32.00	12.10	42.00	8.40
45.00	12.90	55.00	9.20	79.00	7.40	75.00	7.60	101.00	7.90	80.00	6.30	34.00	8.00	75.00	7.50
51.00	10.80	76.00	6.90	151.00	1.30	101.00	6.80	151.00	1.90	101.00	6.90	50.00	7.20	100.00	6.20
76.00	7.70	101.00	5.60	178.00	-.80	126.00	7.10	179.00	0.00	126.00	4.30	101.00	5.50	125.00	4.50
101.00	5.60	152.00	2.10	202.00	-2.10	148.00	7.00	187.00	-1.00	152.00	2.30	126.00	3.40	152.00	2.10
151.00	.80	218.00	-2.40			177.00	3.20			202.00	-.90	151.00	2.00	175.00	-.40
202.00	-2.60					202.00	.80			227.00	-3.50	172.00	0.00	201.00	-2.50
						222.00	-1.60								

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 2

DATE	660922	DATE	670116	DATE	670505	DATE	670920	DATE	671218	DATE	680117	DATE	680227	DATE	680327
SRVY	50	SRVY	51	SRVY	52	SRVY	54	SRVY	55	SRVY	56	SRVY	57	SRVY	58
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
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-1.00	12.10	21.00	12.30	6.00	12.40	25.00	12.70	-1.00	12.10	36.00	12.90	0.00	12.00	0.00	12.10
20.00	12.20	76.00	7.70	25.00	11.90	39.00	12.30	41.00	12.60	52.00	12.40	45.00	13.30	30.00	12.00
48.00	8.70	100.00	6.00	40.00	11.20	76.00	8.40	52.00	12.10	67.00	9.60	60.00	12.00	42.00	13.50
76.00	8.20	125.00	5.40	50.00	10.20	101.00	6.80	65.00	9.70	124.00	4.90	76.00	8.90	63.00	12.40
98.00	8.40	151.00	3.20	75.00	8.10	126.00	5.60	101.00	7.30	151.00	4.40	99.00	6.90	80.00	8.80
125.00	5.50	201.00	-1.20	100.00	6.60	155.00	6.20	149.00	4.80	179.00	2.60	129.00	6.20	101.00	7.40
151.00	3.80	227.00	-3.20	125.00	5.60	176.00	3.30	175.00	4.00	225.00	.70	150.00	6.00	150.00	6.10
176.00	1.00			150.00	3.90	200.00	1.00	200.00	2.00	250.00	.60	176.00	5.00	210.00	5.50
228.00	-2.00			175.00	1.50	208.00	-.90	224.00	-.10	275.00	-1.90	225.00	1.20	212.00	5.00
				201.00	-.80			251.00	-1.80	299.00	-2.80	250.00	.70	250.00	1.50
				225.00	-2.70			270.00	-2.40			299.00	-1.50	300.00	-1.50
				241.00	-3.40									325.00	-3.10

PROFILE 2

DATE	681009	DATE	681023	DATE	681113	DATE	681218	DATE	690115	DATE	690213	DATE	690404	DATE	690528
SRVY	59	SRVY	60	SRVY	61	SRVY	62	SRVY	63	SRVY	64	SRVY	65	SRVY	66
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
----	------	----	------	----	------	----	------	----	------	----	------	----	------	----	------
0.00	12.00	35.00	13.30	35.00	15.90	35.00	14.50	37.00	16.10	38.00	14.50	36.00	17.50	23.00	12.50
35.00	13.70	60.00	12.50	45.00	15.40	45.00	16.10	51.00	15.70	45.00	17.30	49.00	16.20	40.00	[illegible]
60.00	12.80	75.00	9.60	62.00	12.90	62.00	13.80	60.00	14.00	55.00	15.50	66.00	12.70	49.00	[illegible]
75.00	9.30	100.00	7.60	70.00	9.90	70.00	10.20	75.00	9.70	66.00	13.30	80.00	9.50	66.00	[illegible]
100.00	7.50	150.00	6.90	100.00	7.40	100.00	7.50	100.00	7.50	80.00	9.50	100.00	7.90	77.00	[illegible]
150.00	6.90	200.00	6.60	150.00	7.90	150.00	7.30	150.00	7.20	100.00	7.80	150.00	7.10	130.00	7.70
200.00	6.30	250.00	6.60	200.00	8.00	200.00	7.70	200.00	7.60	150.00	7.10	200.00	8.10	150.00	[illegible]
255.00	6.60	300.00	7.90	220.00	7.80	250.00	6.80	250.00	6.90	200.00	7.00	230.00	8.50	200.00	[illegible]
305.00	8.00	307.00	7.90	250.00	6.40	300.00	6.10	300.00	6.80	250.00	7.30	250.00	7.10	211.00	[illegible]
308.00	6.20	325.00	5.90	300.00	4.90	350.00	4.50	337.00	6.80	300.00	7.50	300.00	3.80	218.00	6.30
325.00	4.00	350.00	3.10	350.00	3.70	400.00	1.70	350.00	5.60	325.00	6.30	350.00	2.90	250.00	3.50
350.00	2.20	375.00	1.00	400.00	1.70	425.00	-.20	375.00	3.40	350.00	4.30	400.00	.60	300.00	-.40
400.00	-.20	400.00	-1.40	425.00	.20	450.00	-1.50	400.00	2.00	375.00	2.80	450.00	-1.60	350.00	[illegible]
425.00	-1.80	425.00	-1.30	450.00	-.10	475.00	-2.60	425.00	.70	400.00	1.50				
		450.00	-2.40			500.00	-3.40	450.00	-1.10	425.00	.50				
								475.00	-2.20	450.00	-.60				
								500.00	-2.60	475.00	-1.80				

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 2

DATE	690920	DATE	691020	DATE	691118	DATE	691218	DATE	700120	DATE	700216	DATE	700319	DATE	700521
SRVY	67	SRVY	68	SRVY	69	SRVY	70	SRVY	71	SRVY	72	SRVY	73	SRVY	74
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
0.00	12.60	15.00	11.30	10.00	12.70	0.00	12.50	0.00	12.30	27.00	12.90	0.00	12.00	15.00	13.20
35.00	15.40	43.00	17.50	42.00	17.80	39.00	17.20	50.00	16.50	55.00	15.90	17.00	13.20	22.00	14.90
43.00	17.50	65.00	13.20	49.00	17.00	49.00	17.00	66.00	13.30	80.00	8.70	45.00	16.40	42.00	16.70
67.00	13.30	88.00	9.00	66.00	13.20	67.00	13.20	76.00	10.40	100.00	5.50	59.00	16.20	61.00	15.60
86.00	9.10	105.00	8.50	75.00	10.70	90.00	8.70	80.00	8.40	150.00	2.30	77.00	13.20	73.00	9.00
100.00	8.20	125.00	5.00	100.00	7.80	100.00	7.20	100.00	6.60	200.00	0.00	97.00	8.30	100.00	7.50
114.00	8.10	150.00	3.20	125.00	5.60	125.00	5.20	150.00	3.50	250.00	-1.50	150.00	3.80	150.00	4.50
125.00	7.10	175.00	1.20	150.00	4.80	150.00	3.30	200.00	.60			200.00	1.20	200.00	.40
150.00	4.20	200.00	-.70	175.00	2.20	175.00	1.60	250.00	-1.50			250.00	-1.20	255.00	-2.60
175.00	2.30	225.00	-1.40	200.00	.10	200.00	-1.40	281.00	0.00			290.00	-3.00		
200.00	1.00	250.00	-2.20	225.00	-.40	225.00	-1.80								
225.00	.40	275.00	-2.90	250.00	-1.20	250.00	-2.60								
250.00	-.60			275.00	-2.00	275.00	-3.60								
275.00	-2.40			300.00	-2.80	300.00	-3.60								

PROFILE 2

DATE	700828	DATE	701012	DATE	701207	DATE	701218	DATE	710112	DATE	710208	DATE	710308	DATE	710408
SRVY	75	SRVY	76	SRVY	77	SRVY	78	SRVY	79	SRVY	80	SRVY	81	SRVY	82
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
0.00	12.70	0.00	12.30	11.00	12.50	0.00	12.60	0.00	12.40	0.00	12.50	0.00	12.70	0.00	12.10
9.00	12.70	45.00	15.80	49.00	16.70	39.00	14.80	25.00	13.60	25.00	13.50	11.00	12.40	15.00	13.10
33.00	14.90	50.00	15.70	55.00	15.00	49.00	16.40	38.00	14.60	38.00	14.40	50.00	16.20	30.00	15.30
46.00	17.10	67.00	13.10	65.00	12.30	67.00	13.20	48.00	16.20	50.00	16.20	58.00	15.70	45.00	16.90
52.00	15.50	90.00	9.20	73.00	8.40	71.00	8.60	62.00	14.00	59.00	14.20	62.00	14.00	60.00	13.70
66.00	13.10	100.00	8.00	100.00	6.50	100.00	5.50	70.00	8.10	68.00	8.40	72.00	8.60	70.00	6.90
86.00	8.20	119.00	7.70	125.00	4.20	125.00	4.30	100.00	5.90	75.00	7.70	100.00	5.40	100.00	4.80
100.00	7.90	150.00	3.30	150.00	2.90	150.00	2.70	125.00	4.10	100.00	5.40	125.00	4.40	150.00	1.80
125.00	6.30	175.00	1.10	175.00	.90	175.00	1.10	150.00	2.20	125.00	3.40	147.00	4.20	200.00	-1.20
150.00	3.70	200.00	-.50	200.00	-.90	200.00	-.20	175.00	.70	150.00	2.30	175.00	1.50	240.00	-2.40
175.00	1.30	225.00	-1.40	225.00	-2.10	225.00	-1.80	200.00	-.70	175.00	1.70	200.00	0.00		
200.00	-.40	250.00	-2.90			250.00	-2.40	225.00	-2.40	200.00	.70	225.00	-1.10		
225.00	-2.30							250.00	-3.20	225.00	-.70	250.00	-2.50		
250.00	-3.00									250.00	-2.30				

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 2

DATE	710624
SRVY	83
TIME	1200
0.00	12.80
25.00	14.00
44.00	16.80
67.00	9.70
81.00	7.70
100.00	7.00
123.00	6.60
150.00	3.00
200.00	-1.10
225.00	-2.00

DATE	710817
SRVY	85
TIME	1200
0.00	12.40
35.00	14.60
45.00	16.70
69.00	9.00
100.00	7.00
140.00	7.50
175.00	3.70
200.00	1.50
250.00	-2.60
275.00	-3.80

DATE	711007
SRVY	86
TIME	1200
0.00	12.50
37.00	14.80
46.00	16.30
75.00	9.10
100.00	7.70
113.00	6.90
150.00	2.60
200.00	-1.10
225.00	-2.10

DATE	711214
SRVY	87
TIME	1200
0.00	13.30
42.00	14.80
50.00	13.70
69.00	10.00
100.00	7.00
150.00	3.40
200.00	0.00
225.00	-2.00

DATE	720112
SRVY	88
TIME	1200
0.00	13.20
27.00	13.70
41.00	15.70
48.00	14.70
70.00	9.60
100.00	7.30
150.00	3.90
200.00	.80
225.00	-.60
250.00	-3.40

DATE	720215
SRVY	89
TIME	1200
0.00	13.30
35.00	13.90
47.00	16.20
80.00	8.50
100.00	6.30
150.00	2.90
200.00	1.20
250.00	-1.60
275.00	-2.20

DATE	720223
SRVY	90
TIME	1200
0.00	13.40
22.00	13.80
31.00	14.00
44.00	16.40
61.00	11.80
62.00	8.90
80.00	7.00
100.00	5.30
150.00	2.60
200.00	1.60
250.00	.10
300.00	-3.40

DATE	720313
SRVY	91
TIME	1200
0.00	12.90
26.00	13.50
47.00	16.10
62.00	11.70
64.00	8.30
67.00	7.80
74.00	7.50
100.00	5.10
144.00	4.60
150.00	4.50
175.00	3.10
200.00	1.60
250.00	-.60
290.00	-2.90

PROFILE 2

DATE	720411
SRVY	92
TIME	1200
0.00	12.90
40.00	16.00
47.00	15.00
58.00	12.20
64.00	9.50
87.00	6.60
100.00	6.40
150.00	3.40
200.00	1.40
250.00	-.10
300.00	-3.10

DATE	720823
SRVY	93
TIME	1100
0.00	13.10
37.00	14.80
49.00	15.20
85.00	7.60
100.00	6.50
150.00	6.10
200.00	6.30
250.00	6.00
300.00	5.90
350.00	2.40
400.00	-2.40

DATE	721017
SRVY	94
TIME	800
0.00	13.40
27.00	16.30
42.00	17.00
57.00	14.00
78.00	8.50
100.00	7.00
150.00	6.10
200.00	7.10
228.00	7.10
250.00	6.30
288.00	5.00
308.00	5.20
325.00	3.80
350.00	.60
375.00	-2.20

DATE	721205
SRVY	95
TIME	900
0.00	13.10
5.00	13.50
15.00	16.80
38.00	15.30
49.00	15.90
64.00	12.70
96.00	7.50
100.00	7.20
150.00	6.50
200.00	7.30
231.00	7.40
250.00	6.20
275.00	4.30
300.00	2.90
325.00	2.00
350.00	1.00
375.00	-1.00

DATE	730103
SRVY	96
TIME	1000
0.00	14.70
42.00	17.70
50.00	16.10
76.00	9.60
100.00	7.20
150.00	7.70
190.00	7.40
200.00	6.50
250.00	5.00
300.00	1.80
350.00	-1.00
375.00	-2.30

DATE	730213
SRVY	97
TIME	900
0.00	14.00
32.00	18.00
46.00	17.30
78.00	9.20
100.00	7.60
150.00	8.00
179.00	8.00
200.00	6.30
250.00	3.10
300.00	2.00
350.00	0.00
381.00	-2.10

DATE	730314
SRVY	98
TIME	1100
0.00	13.40
32.00	19.30
42.00	18.90
49.00	16.40
81.00	8.90
100.00	7.50
150.00	7.50
192.00	7.00
231.00	1.50
250.00	1.70
300.00	-.50
350.00	-2.80

DATE	730324
SRVY	99
TIME	1500
0.00	13.40
29.00	17.40
34.00	14.70
85.00	8.70
100.00	7.50
150.00	7.50
200.00	4.00
250.00	1.20
300.00	0.00

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 2

DATE	730802	DATE	730817	DATE	730612
SRVY	100	SRVY	101	SRVY	103
TIME	1100	TIME	1000	TIME	900
0.00	13.60	0.00	15.80	0.00	13.80
35.00	19.20	31.00	19.10	36.00	18.90
41.00	18.70	47.00	17.70	43.00	19.00
90.00	8.10	79.00	9.30	90.00	8.40
100.00	8.00	109.00	7.90	100.00	8.10
150.00	8.10	137.00	7.70	150.00	7.30
200.00	2.40	169.00	4.20	190.00	5.90
250.00	1.20	200.00	4.80	200.00	3.90
300.00	-1.60	225.00	1.70	225.00	.90
		250.00	-.40	250.00	-2.60
		275.00	-2.10		

PROFILE 3

DATE	620926	DATE	620928	DATE	621011	DATE	621023	DATE	621029	DATE	621108	DATE	621210	DATE	630115
SRVY	1	SRVY	2	SRVY	4	SRVY	5	SRVY	6	SRVY	7	SRVY	8	SRVY	9
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
8.00	19.60	97.00	16.80	126.00	14.60	106.00	15.40	123.00	14.80	121.00	14.90	103.00	14.70	-1.00	18.60
18.00	14.10	120.00	15.80	198.00	10.90	134.00	13.80	180.00	10.70	185.00	10.30	136.00	12.60	20.00	14.10
57.00	15.20	160.00	12.70	224.00	8.50	181.00	10.70	203.00	10.50	214.00	9.40	179.00	10.00	50.00	14.70
106.00	15.20	178.00	11.90	240.00	8.60	203.00	10.30	229.00	8.30	250.00	9.50	235.00	8.90	100.00	14.80
177.00	12.10	197.00	11.60	267.00	9.30	230.00	8.30	288.00	9.50	273.00	7.10	277.00	7.00	167.00	11.50
212.00	10.50	216.00	10.30	289.00	9.40	261.00	9.30	313.00	5.40	312.00	6.90	316.00	4.40	202.00	9.00
232.00	9.30	235.00	9.30	304.00	7.20	290.00	9.70	314.00	4.50	342.00	1.80	340.00	.10	251.00	8.90
266.00	9.10	259.00	9.00	326.00	5.40	314.00	6.90	350.00	2.00	378.00	-.50	400.00	-2.30	301.00	7.00
307.00	9.80	272.00	9.30	352.00	2.40	341.00	3.10	399.00	-2.70	415.00	-3.10	450.00	-5.10	351.00	3.30
334.00	6.90	309.00	10.00	390.00	-1.30	388.00	-1.40							400.00	-.70
357.00	4.80	322.00	7.80											426.00	-1.40
382.00	2.00	348.00	5.10												
407.00	-.10	379.00	1.40												
425.00	-1.00														

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 3

DATE	630121	DATE	630128	DATE	630208	DATE	630212	DATE	630220	DATE	630226	DATE	630304	DATE	630311
SRVY	10	SRVY	11	SRVY	12	SRVY	13	SRVY	14	SRVY	15	SRVY	16	SRVY	17
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
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250.00	9.00	-1.00	19.70	200.00	9.60	24.00	14.10	142.00	12.00	174.00	10.50	175.00	10.50	276.00	7.40
300.00	7.30	9.00	16.50	225.00	8.90	50.00	14.20	177.00	10.70	222.00	8.50	226.00	8.60	307.00	6.70
351.00	3.60	23.00	14.00	250.00	8.50	75.00	14.20	222.00	8.70	276.00	7.90	250.00	8.10	327.00	5.40
400.00	-.30	51.00	14.50	275.00	8.30	100.00	14.30	276.00	8.10	301.00	7.00	276.00	8.10	352.00	3.50
426.00	-1.50	74.00	14.60	300.00	6.90	175.00	10.20	301.00	7.00	324.00	5.40	296.00	7.90	376.00	-.10
		100.00	14.80	350.00	3.40	200.00	9.80	351.00	3.30	373.00	.30	370.00	-.10	401.00	-1.30
		150.00	11.60	401.00	-.30	225.00	8.70	397.00	-.60	426.00	-1.10	426.00	-1.30		
		176.00	10.80	425.00	-1.60	276.00	8.40	426.00	-1.00						
		200.00	9.80			301.00	7.40								
		225.00	9.80			350.00	2.00								
		251.00	8.60			401.00	-.30								
		276.00	8.20												
		305.00	7.10												
		351.00	3.50												
		398.00	0.00												
		425.00	-1.30												

PROFILE 3

DATE	630319	DATE	630326	DATE	630408	DATE	630528	DATE	630613	DATE	630625	DATE	630711	DATE	630723
SRVY	18	SRVY	19	SRVY	20	SRVY	21	SRVY	22	SRVY	23	SRVY	24	SRVY	25
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
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25.00	14.00	251.00	8.10	101.00	14.10	-1.00	18.40	276.00	7.90	124.00	13.00	125.00	13.10	100.00	14.00
100.00	14.20	301.00	7.10	151.00	11.50	6.00	19.40	301.00	6.30	174.00	10.50	150.00	11.80	125.00	12.00
150.00	11.60	350.00	2.30	201.00	9.50	30.00	13.90	325.00	4.30	200.00	9.20	175.00	10.60	175.00	10.10
227.00	8.40	401.00	-2.30	226.00	8.60	50.00	12.90	351.00	2.70	225.00	8.40	200.00	9.40	232.00	6.40
276.00	7.60			277.00	7.70	75.00	13.90	376.00	-.50	250.00	7.90	225.00	8.60	252.00	6.10
302.00	6.80			302.00	6.80	100.00	13.90	402.00	-1.50	275.00	8.00	250.00	7.90	277.00	6.60
325.00	4.50			326.00	4.90	128.00	12.90			301.00	6.70	275.00	8.10	292.00	6.50
374.00	-.10			377.00	0.00	152.00	11.70			326.00	4.90	300.00	6.10	326.00	3.20
401.00	-1.00			401.00	-1.60	200.00	9.20			351.00	1.50	325.00	3.40	351.00	1.20
						252.00	7.80			401.00	-.90	350.00	1.40	376.00	.30
						277.00	7.80					375.00	.50	401.00	-1.00
						302.00	4.90					400.00	-1.20		
						352.00	.20								
						377.00	-1.10								
						402.00	-2.90								

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 5

DATE	630806	DATE	630820	DATE	630906	DATE	631010	DATE	631025	DATE	631115	DATE	631227	DATE	640115
SRVY	26	SRVY	27	SRVY	28	SRVY	30	SRVY	31	SRVY	32	SRVY	33	SRVY	34
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
100.00	14.00	77.00	14.10	200.00	9.30	-1.00	18.30	151.00	11.30	202.00	9.30	7.00	19.10	-303.00	11.30
150.00	11.00	101.00	14.20	250.00	8.50	7.00	19.40	202.00	9.30	227.00	8.80	19.00	19.80	-177.00	13.90
201.00	8.80	201.00	9.20	275.00	6.60	30.00	13.80	227.00	8.50	252.00	7.50	25.00	19.10	-101.00	10.10
250.00	8.10	225.00	8.40	301.00	4.10	50.00	12.90	252.00	6.30	303.00	3.60	51.00	13.60	-76.00	10.90
277.00	8.50	252.00	8.10	324.00	1.80	76.00	14.00	303.00	2.00	329.00	1.30	100.00	14.30	-51.00	14.10
289.00	6.70	276.00	8.80	350.00	.60	101.00	14.40	327.00	.60	353.00	-.90	126.00	13.50	-24.00	15.90
327.00	3.00	327.00	2.20			127.00	15.00	353.00	-.50			151.00	11.40	7.00	19.20
350.00	.30	349.00	.50			151.00	11.30					202.00	9.20	17.00	14.40
377.00	-2.00	375.00	-1.00			202.00	9.00					227.00	8.00	25.00	14.00
						229.00	7.50					253.00	7.40	50.00	13.30
						253.00	5.50					278.00	6.30	101.00	14.70
						303.00	.40					303.00	4.20	152.00	11.00
						329.00	-1.30					329.00	2.40	179.00	16.00
												353.00	1.40	203.00	9.10
												394.00	-2.00	229.00	7.60
														277.00	6.10
														303.00	5.00
														329.00	3.40
														354.00	1.50
														383.00	0.00
														405.00	-1.50
														430.00	-2.40

PROFILE 5

DATE	640212	DATE	640310	DATE	640407	DATE	640525	DATE	640623	DATE	640829	DATE	640924	DATE	641201
SRVY	35	SRVY	36	SRVY	37	SRVY	38	SRVY	39	SRVY	40	SRVY	41	SRVY	42
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
127.00	12.80	10.00	18.00	9.00	19.30	8.00	19.40	9.00	19.20	8.00	19.10	-302.00	11.40	8.00	19.20
152.00	11.30	20.00	14.50	20.00	14.10	19.00	14.50	21.00	13.90	15.00	12.90	-252.00	12.40	22.00	13.70
177.00	10.50	50.00	13.00	50.00	13.00	50.00	12.40	51.00	12.80	50.00	12.50	-177.00	13.90	50.00	12.70
203.00	9.30	101.00	13.80	77.00	13.10	76.00	13.00	77.00	13.40	76.00	13.30	-101.00	10.20	75.00	13.50
229.00	8.00	128.00	12.60	101.00	14.00	101.00	14.40	100.00	14.20	101.00	14.70	-76.00	10.80	101.00	14.30
279.00	7.00	151.00	11.00	127.00	13.30	126.00	13.50	126.00	12.90	127.00	13.30	-52.00	18.20	126.00	13.40
329.00	4.00	177.00	10.40	176.00	11.00	151.00	10.70	151.00	10.80	151.00	11.00	-25.00	15.80	151.00	11.20
355.00	2.30	202.00	9.10	227.00	8.20	177.00	11.10	178.00	9.80	176.00	10.30	8.00	19.10	177.00	10.80
379.00	1.10	227.00	7.70	277.00	7.20	202.00	8.60	203.00	8.50	227.00	7.60	15.00	12.90	201.00	10.10
404.00	-.10	253.00	7.50	328.00	5.10	227.00	7.70	227.00	7.80	252.00	7.90	50.00	12.40	227.00	10.10
430.00	-1.80	303.00	6.50	353.00	3.10	252.00	7.60	253.00	8.70	278.00	8.70	76.00	13.20	252.00	9.80
		328.00	4.10	405.00	-.20	278.00	7.60	277.00	9.00	302.00	9.00	101.00	14.60	278.00	8.60
		355.00	2.10	455.00	-3.90	329.00	5.30	303.00	8.60	329.00	5.10	152.00	11.10	302.00	7.40
		383.00	0.00			353.00	3.80	328.00	6.60	354.00	2.50	202.00	10.00	329.00	5.80
		404.00	-1.40			379.00	1.20	354.00	4.10	377.00	0.00	227.00	10.40	353.00	2.80
						404.00	-1.70	377.00	1.90			239.00	10.10	379.00	-.20
								404.00	-1.40			327.00	1.30		

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 3

DATE	650119	DATE	650427	DATE	650907	DATE	651027	DATE	651222	DATE	660125	DATE	660321	DATE	660922
SRVY	43	SRVY	44	SRVY	45	SRVY	46	SRVY	47	SRVY	48	SRVY	49	SRVY	50
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
126.00	13.10	101.00	13.20	0.00	13.70	-25.00	15.70	100.00	13.00	99.00	12.40	99.00	13.40	100.00	12.60
152.00	11.10	152.00	11.20	101.00	13.00	0.00	13.70	151.00	11.80	149.00	12.40	149.00	11.70	150.00	11.70
176.00	11.00	179.00	12.20	126.00	11.50	101.00	13.00	177.00	13.80	160.00	13.90	162.00	11.70	171.00	14.10
201.00	10.40	196.00	10.60	151.00	12.80	127.00	11.40	196.00	10.80	185.00	10.40	179.00	13.90	196.00	12.90
227.00	10.20	252.00	8.80	177.00	10.10	151.00	12.80	201.00	9.80	251.00	8.30	206.00	11.50	220.00	9.20
252.00	8.30	303.00	5.70	252.00	7.20	161.00	11.80	252.00	8.10	301.00	7.30	251.00	8.40	251.00	4.00
277.00	6.90	328.00	5.80	278.00	7.50	177.00	13.80	302.00	8.40	351.00	5.80	301.00	7.30	301.00	7.30
328.00	5.40	354.00	4.20	311.00	8.90	195.00	10.60	353.00	8.20	377.00	4.20	350.00	7.30	351.00	7.50
377.00	.80	378.00	1.90	328.00	5.50	202.00	10.10	363.00	7.00	401.00	2.40	400.00	6.30	401.00	8.30
403.00	-2.20	404.00	0.00	353.00	2.20	252.00	8.60	403.00	6.50	422.00	1.80	427.00	5.50	411.00	8.30
		429.00	-1.70	378.00	0.00	302.00	8.70	454.00	3.50			451.00	3.40	427.00	5.50
		454.00	-2.50	394.00	-1.00	312.00	9.20	479.00	2.00			477.00	1.40	478.00	1.40
						328.00	6.90	504.00	.60			502.00	-.20	502.00	.70
						353.00	5.90	555.00	-1.10			528.00	-1.70	578.00	-2.30
						444.00	-.90	579.00	-2.10						
								605.00	-2.70						

PROFILE 3

DATE	670116	DATE	670505	DATE	670920	DATE	671218	DATE	680117	DATE	680227	DATE	680327	DATE	681009
SRVY	51	SRVY	52	SRVY	54	SRVY	55	SRVY	56	SRVY	57	SRVY	58	SRVY	59
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
100.00	12.90	100.00	13.90	100.00	14.60	100.00	15.40	100.00	15.70	0.00	18.50	0.00	18.60	100.00	16.20
126.00	12.80	150.00	12.30	151.00	12.50	116.00	13.00	114.00	12.70	100.00	15.60	100.00	16.30	122.00	12.10
174.00	14.00	173.00	14.10	176.00	15.50	136.00	12.10	144.00	12.60	123.00	12.30	129.00	11.60	147.00	13.00
200.00	12.90	201.00	13.30	216.00	10.60	150.00	12.90	165.00	18.60	137.00	12.00	155.00	13.00	165.00	17.30
220.00	9.20	221.00	9.90	251.00	8.30	164.00	14.90	170.00	19.40	168.00	17.00	175.00	17.00	180.00	17.60
252.00	8.50	276.00	7.20	276.00	7.60	175.00	17.30	176.00	17.20	185.00	17.00	192.00	16.10	200.00	13.60
302.00	6.90	301.00	7.40	301.00	7.70	180.00	16.20	185.00	15.60	210.00	10.90	217.00	10.40	225.00	9.60
352.00	7.20	351.00	8.40	351.00	8.40	200.00	14.00	200.00	12.90	225.00	9.30	250.00	8.30	250.00	9.60
402.00	8.00	376.00	9.00	376.00	8.50	221.00	9.90	211.00	10.30	249.00	8.10	299.00	8.00	290.00	10.00
432.00	6.80	402.00	6.80	402.00	7.80	250.00	8.20	249.00	8.30	300.00	7.40	349.00	7.20	305.00	7.00
453.00	5.20	427.00	7.00	425.00	6.40	301.00	8.10	299.00	7.60	350.00	7.90	400.00	2.70	325.00	4.50
502.00	1.10	477.00	5.00	451.00	5.40	352.00	8.60	349.00	8.20	370.00	7.80	450.00	-1.10	350.00	2.30
577.00	-.40	502.00	2.40	502.00	7.50	389.00	8.70	400.00	5.10	400.00	4.60	475.00	-2.30	375.00	.50
		528.00	-.50	522.00	7.60	422.00	5.20	449.00	1.90	449.00	1.20			400.00	-.30
		552.00	-2.00	552.00	3.10	452.00	5.70	500.00	.30	500.00	-.50				
		603.00	-3.40	582.00	.30	477.00	3.40	550.00	-1.10						
				588.00	-.80	502.00	1.50	575.00	-2.00						
				603.00	-1.40	527.00	.60								
						553.00	.20								
						578.00	-.80								
						602.00	-2.00								

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 3

DATE	681023	DATE	681115	DATE	681218	DATE	690115	DATE	690213	DATE	690304	DATE	690528	DATE	690924
SRVY	60	SRVY	61	SRVY	62	SRVY	63	SRVY	64	SRVY	65	SRVY	66	SRVY	67
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
100.00	16.10	100.00	16.10	100.00	16.30	100.00	16.20	100.00	16.20	155.00	13.10	100.00	16.10	97.00	16.10
120.00	12.50	125.00	11.60	125.00	11.70	125.00	12.30	130.00	11.70	177.00	17.10	118.00	13.40	116.00	14.20
140.00	12.50	145.00	12.50	145.00	13.10	150.00	12.70	150.00	13.40	188.00	16.00	140.00	13.30	158.00	14.90
165.00	17.20	170.00	16.40	170.00	16.50	175.00	16.40	177.00	17.30	200.00	12.10	174.00	17.00	173.00	17.10
180.00	17.70	180.00	17.00	195.00	15.90	190.00	17.10	190.00	16.90	212.00	9.50	185.00	16.90	178.00	16.90
200.00	13.20	195.00	14.60	210.00	9.90	210.00	9.90	212.00	10.20	250.00	5.60	215.00	9.70	200.00	10.90
225.00	9.90	200.00	10.90	250.00	5.80	225.00	8.20	225.00	8.40	300.00	3.50	250.00	7.10	225.00	9.10
250.00	9.40	250.00	6.00	275.00	5.00	250.00	6.40	250.00	5.80	350.00	2.10	300.00	1.40	250.00	4.30
275.00	10.20	300.00	3.50	300.00	3.00	275.00	4.60	275.00	4.30	400.00	.20	350.00	-2.50	275.00	2.50
288.00	10.30	350.00	.90	325.00	1.30	300.00	2.90	300.00	2.60	450.00	-1.70			310.00	1.10
300.00	8.90	375.00	-.60	350.00	-.50	325.00	1.10	325.00	1.50					327.00	0.00
302.00	7.00			375.00	-1.50	350.00	-.60	350.00	.70					350.00	-.40
325.00	5.00			400.00	-2.20	375.00	-1.80	375.00	-.00					375.00	-1.00
350.00	3.00			425.00	-2.70			400.00	-1.30					400.00	-1.90
375.00	.80							425.00	-1.90						
400.00	-1.10														
415.00	-1.90														

PROFILE 3

DATE	691020	DATE	691118	DATE	691218	DATE	700120	DATE	700216	DATE	700319	DATE	700521	DATE	700828
SRVY	68	SRVY	69	SRVY	70	SRVY	71	SRVY	72	SRVY	73	SRVY	74	SRVY	75
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
100.00	16.00	100.00	16.10	100.00	16.10	100.00	16.00	100.00	16.00	5.00	18.50	16.00	14.90	100.00	15.70
116.00	14.10	120.00	14.30	119.00	13.80	122.00	14.10	134.00	12.20	21.00	14.10	50.00	11.50	133.00	13.10
160.00	14.80	162.00	14.90	156.00	14.00	161.00	14.40	162.00	13.50	43.00	11.50	82.00	12.30	154.00	13.20
174.00	17.60	175.00	17.10	178.00	16.80	179.00	16.50	180.00	16.60	87.00	12.20	110.00	16.10	178.00	17.20
180.00	16.90	180.00	17.00	183.00	17.20	185.00	17.60	188.00	17.10	119.00	16.20	150.00	15.20	200.00	11.70
204.00	10.00	200.00	11.40	200.00	11.70	200.00	12.50	214.00	8.20	150.00	15.30	181.00	17.20	222.00	7.20
225.00	8.80	211.00	9.90	219.00	9.00	210.00	9.30	250.00	4.70	196.00	16.10	200.00	13.10	250.00	4.60
255.00	7.80	225.00	8.50	250.00	7.00	250.00	5.60	300.00	1.70	216.00	9.70	217.00	9.10	275.00	2.60
275.00	6.70	250.00	6.80	275.00	5.20	300.00	4.00	350.00	-.60	250.00	6.20	279.00	7.20	300.00	.90
300.00	4.80	275.00	5.70	300.00	4.70	350.00	1.00	390.00	-2.30	300.00	4.80	300.00	4.80	325.00	-.20
325.00	3.20	300.00	4.00	325.00	3.30	400.00	-1.60			350.00	1.90	350.00	.70	350.00	-1.20
350.00	1.40	325.00	2.50	350.00	1.20	471.00	-2.40			400.00	-.50	400.00	-2.00	375.00	-2.70
375.00	-.90	350.00	1.00	375.00	-.60					445.00	-2.40				
400.00	-2.60	375.00	-.60	400.00	-2.10										
425.00	-3.80	400.00	-1.90	425.00	-3.30										
		425.00	-3.20												

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 3

DATE	701012	DATE	701207	DATE	701218	DATE	710112	DATE	710208	DATE	710308	DATE	710408	DATE	710628
SRVY	76	SRVY	77	SRVY	78	SRVY	79	SRVY	80	SRVY	81	SRVY	82	SRVY	83
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
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100.00	15.80	100.00	14.90	100.00	15.90	100.00	14.30	90.00	13.00	80.00	11.60	100.00	15.60	100.00	14.20
122.00	14.20	120.00	15.50	119.00	13.90	105.00	15.50	100.00	15.70	100.00	15.70	130.00	13.60	141.00	14.20
150.00	14.40	156.00	14.40	125.00	13.40	125.00	14.70	125.00	15.00	121.00	14.80	160.00	13.40	170.00	16.50
177.00	16.80	180.00	16.00	150.00	12.90	150.00	13.60	150.00	14.80	163.00	14.40	180.00	16.40	200.00	14.40
191.00	15.00	197.00	14.60	170.00	14.80	175.00	15.10	175.00	16.30	180.00	15.60	205.00	14.00	235.00	8.30
200.00	11.90	200.00	13.50	175.00	14.90	181.00	15.90	187.00	15.10	192.00	14.40	225.00	9.50	250.00	7.10
220.00	8.30	225.00	8.40	180.00	16.60	200.00	14.40	201.00	13.60	200.00	14.30	250.00	7.80	300.00	6.60
237.00	7.90	250.00	7.70	213.00	11.40	225.00	9.60	219.00	9.30	208.00	13.90	300.00	5.30	350.00	6.40
250.00	6.20	275.00	6.90	225.00	9.80	250.00	7.90	250.00	6.50	219.00	10.10	350.00	1.80	386.00	6.40
300.00	2.10	300.00	5.40	275.00	6.30	275.00	6.30	275.00	4.50	250.00	7.10	400.00	-2.20	400.00	5.50
350.00	-.90	325.00	3.90	303.00	4.90	300.00	5.70	300.00	3.00	279.00	5.50	425.00	-3.20	450.00	.40
400.00	-3.00	350.00	2.50	325.00	4.60	325.00	5.10	325.00	2.00	300.00	5.40			500.00	-1.80
		375.00	.80	345.00	4.30	350.00	3.30	350.00	.90	317.00	5.30				
		400.00	-.60	375.00	2.20	375.00	1.70	375.00	-.10	325.00	4.70				
		425.00	-1.60	425.00	-.50	400.00	.40	400.00	-1.00	350.00	2.10				
				475.00	-2.10	425.00	-.70	425.00	-2.00	375.00	.40				
						450.00	-2.00			400.00	-.70				
						475.00	-3.00			425.00	-2.10				

PROFILE 3

DATE	710817	DATE	711007	DATE	711214	DATE	720112	DATE	720215	DATE	720223	DATE	720314	DATE	720411
SRVY	85	SRVY	86	SRVY	87	SRVY	88	SRVY	89	SRVY	90	SRVY	91	SRVY	92
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
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0.00	18.80	100.00	14.70	100.00	14.70	100.00	14.70	100.00	14.20	100.00	14.50	100.00	14.20	100.00	14.20
100.00	14.80	150.00	14.80	150.00	14.10	148.00	15.10	150.00	14.20	150.00	14.80	140.00	15.20	113.00	13.70
150.00	15.10	177.00	15.80	175.00	15.60	177.00	15.80	182.00	15.60	180.00	15.70	162.00	16.10	143.00	15.00
173.00	16.20	200.00	13.90	202.00	13.70	200.00	13.40	200.00	14.20	200.00	13.80	186.00	16.00	172.00	16.20
201.00	12.90	240.00	8.00	217.00	9.90	217.00	10.00	212.00	13.80	234.00	9.20	200.00	13.80	200.00	13.90
248.00	7.40	250.00	7.70	250.00	7.90	250.00	8.10	234.00	9.10	250.00	8.60	210.00	13.20	247.00	8.10
275.00	7.00	300.00	9.00	300.00	8.40	300.00	8.30	250.00	8.00	300.00	7.40	237.00	9.20	300.00	7.10
300.00	7.10	322.00	9.00	350.00	8.00	341.00	8.30	300.00	7.70	350.00	5.40	250.00	8.50	350.00	6.60
350.00	5.80	350.00	5.60	371.00	7.60	350.00	7.60	350.00	7.80	400.00	3.60	300.00	7.20	390.00	7.10
400.00	2.40	400.00	0.00	400.00	4.80	400.00	2.90	400.00	4.50	450.00	2.60	350.00	5.50	400.00	5.60
450.00	-1.10	450.00	-2.50	450.00	-.70	450.00	-1.10	450.00	2.00	500.00	1.10	400.00	5.10	450.00	.30
500.00	-2.60			500.00	-.70	475.00	-2.10	500.00	.60	550.00	-.40	430.00	5.60	500.00	-.70
				550.00	-1.20			550.00	-1.00	575.00	-1.70	450.00	4.30	550.00	-.70
				575.00	-2.00			575.00	-2.10			500.00	1.70	600.00	-1.70
												550.00	.30	650.00	-2.60
												600.00	-1.30		
												650.00	-2.00		

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 3

DATE	720823	DATE	721017	DATE	721205	DATE	730103	DATE	730213	DATE	730315	DATE	730324	DATE	730402
SRVY	93	SRVY	94	SRVY	95	SRVY	96	SRVY	97	SRVY	98	SRVY	99	SRVY	100
TIME	1100	TIME	900	TIME	900	TIME	1000	TIME	900	TIME	1100	TIME	1500	TIME	1100
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100.00	14.20	100.00	14.50	100.00	15.00	100.00	15.30	100.00	15.20	0.00	19.30	100.00	14.70	100.00	14.80
150.00	15.00	150.00	15.30	140.00	17.70	150.00	15.60	140.00	15.50	100.00	14.60	150.00	15.30	129.00	17.20
177.00	16.10	179.00	16.20	200.00	15.80	200.00	16.10	200.00	16.30	133.00	16.60	200.00	16.30	150.00	15.50
205.00	16.60	200.00	15.70	209.00	15.90	208.00	15.50	211.00	15.40	156.00	15.20	212.00	15.40	175.00	16.40
231.00	9.10	214.00	15.20	228.00	10.20	223.00	10.80	237.00	9.60	174.00	16.30	250.00	8.30	200.00	16.60
250.00	8.00	231.00	10.00	250.00	9.10	250.00	8.40	250.00	8.20	200.00	16.70	300.00	3.40	211.00	15.00
300.00	7.30	250.00	9.00	287.00	7.80	300.00	5.40	300.00	5.00	214.00	15.50	350.00	1.40	227.00	11.20
350.00	7.30	300.00	7.20	300.00	6.50	350.00	1.40	350.00	3.00	229.00	10.80	375.00	-1.10	244.00	6.60
400.00	3.80	339.00	5.00	350.00	2.50	400.00	.40	400.00	2.20	250.00	8.60			250.00	7.90
450.00	-.20	354.00	5.00	400.00	-.70	450.00	-2.10	450.00	.80	300.00	4.30			300.00	3.40
475.00	-1.40	375.00	2.20	425.00	-1.50			485.00	-.90	350.00	2.40			350.00	1.40
500.00	-2.40	400.00	0.00							400.00	-.10			400.00	.40
		425.00	-1.80							450.00	-2.00			425.00	-1.60

PROFILE 3

DATE	730417	DATE	730612
SRVY	101	SRVY	103
TIME	1000	TIME	900
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0.00	18.50	100.00	14.70
100.00	14.80	129.00	17.30
129.00	17.40	149.00	15.50
153.00	15.50	171.00	16.70
174.00	16.60	200.00	16.80
200.00	16.30	213.00	15.50
211.00	15.80	252.00	7.70
231.00	8.70	280.00	7.10
250.00	7.70	300.00	4.30
273.00	5.40	325.00	.80
301.00	5.70	350.00	-1.70
325.00	2.60		
350.00	.40		
375.00	-.60		
400.00	-1.50		

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 4

DATE	620926	DATE	620928	DATE	621011	DATE	621023	DATE	621029	DATE	621108	DATE	621210	DATE	630115
SRVY	1	SRVY	2	SRVY	4	SRVY	5	SRVY	6	SRVY	7	SRVY	8	SRVY	9
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
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52.00	12.60	145.00	12.70	145.00	12.70	145.00	12.70	145.00	12.70	137.00	8.30	121.00	9.50	-1.00	10.60
58.00	11.30	152.00	11.80	155.00	9.20	155.00	9.70	155.00	9.70	145.00	7.10	132.00	8.10	50.00	10.80
70.00	13.80	158.00	6.80	170.00	8.60	170.00	7.90	170.00	7.80	155.00	6.00	154.00	7.60	73.00	14.10
77.00	13.80	165.00	5.40	177.00	4.90	177.00	6.30	177.00	6.70	170.00	4.50	167.00	6.20	90.00	15.30
80.00	13.80	194.00	3.00	198.00	2.40	198.00	5.20	198.00	5.40	177.00	3.40	177.00	6.70	96.00	14.00
92.00	14.90	218.00	1.70	225.00	1.30	220.00	3.50	220.00	4.20	198.00	1.90	197.00	6.60	100.00	15.10
115.00	14.00	245.00	-.60	245.00	.90	245.00	1.20	245.00	.40	225.00	1.20	225.00	5.30	119.00	14.00
145.00	12.70									245.00	-.10	244.00	.10	123.00	8.40
165.00	8.90													150.00	7.70
196.00	3.50													201.00	.80
218.00	2.00													251.00	-2.00
245.00	.70														
265.00	-1.00														
285.00	-1.50														
300.00	-2.10														

PROFILE 4

DATE	630121	DATE	630128	DATE	630204	DATE	630212	DATE	630220	DATE	630226	DATE	630304	DATE	630311
SRVY	10	SRVY	11	SRVY	12	SRVY	13	SRVY	14	SRVY	15	SRVY	16	SRVY	17
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
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122.00	10.40	121.00	11.80	150.00	6.00	129.00	9.30	129.00	9.40	151.00	7.50	130.00	8.80	119.00	14.50
140.00	7.90	128.00	9.20	176.00	5.70	175.00	5.00	175.00	6.30	176.00	6.10	139.00	7.50	130.00	9.40
150.00	7.70	151.00	6.00	200.00	2.00	200.00	1.70	200.00	4.00	201.00	5.40	163.00	7.20	150.00	7.80
199.00	2.10	174.00	4.00	225.00	.10	226.00	.80	226.00	2.70	252.00	-.70	179.00	5.40	162.00	7.40
270.00	-1.50	263.00	3.20	251.00	-.80	251.00	-.60	276.00	-1.20	276.00	-2.60	194.00	4.10	176.00	6.00
		229.00	.50	276.00	-2.70	276.00	-2.70					226.00	.80	200.00	6.00
		276.00	-3.00									250.00	-1.40	225.00	1.90
														251.00	-1.10

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 4

DATE	630319	DATE	630326	DATE	630408	DATE	631010	DATE	631025	DATE	631115	DATE	631227	DATE	640115
SRVY	18	SRVY	19	SRVY	20	SRVY	30	SRVY	31	SRVY	32	SRVY	33	SRVY	34
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
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119.00	10.30	176.00	6.30	165.00	6.70	-1.00	10.50	101.00	9.30	100.00	9.40	8.00	10.70	52.00	12.20
127.00	9.90	191.00	5.90	167.00	6.40	50.00	14.30	116.00	10.40	116.00	11.80	52.00	12.50	75.00	16.50
151.00	7.80	227.00	2.80	175.00	6.30	74.00	13.90	126.00	9.30	126.00	11.00	76.00	15.90	100.00	16.40
200.00	5.90	252.00	0.00	191.00	6.40	101.00	9.30	152.00	9.70	177.00	5.50	101.00	16.90	123.00	13.20
226.00	4.20	277.00	-2.10	201.00	5.20	127.00	10.10	176.00	7.10	202.00	1.40	125.00	11.90	139.00	8.00
251.00	.20			227.00	2.80	151.00	9.80	202.00	4.20	227.00	-.90	202.00	4.50	150.00	6.80
270.00	-.90			251.00	0.00	176.00	7.60	252.00	-.60			227.00	2.90	175.00	5.40
				276.00	-1.50	205.00	4.90	270.00	-1.80			250.00	0.00	200.00	4.10
						226.00	1.40					276.00	-1.90	225.00	3.00
						252.00	-.40							250.00	1.50
						279.00	-1.40							275.00	.70
														300.00	-1.10
														325.00	-1.30

PROFILE 4

DATE	641212	DATE	650310	DATE	650407	DATE	650525	DATE	650623	DATE	650829	DATE	650924	DATE	651201
SRVY	35	SRVY	36	SRVY	37	SRVY	38	SRVY	39	SRVY	40	SRVY	41	SRVY	42
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
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131.00	9.00	52.00	12.20	52.00	12.30	52.00	12.50	52.00	12.00	25.00	11.40	85.00	17.00	85.00	16.80
202.00	4.20	78.00	16.20	75.00	16.10	75.00	16.20	75.00	16.20	50.00	12.30	97.00	19.50	97.00	16.50
227.00	1.60	87.00	17.60	100.00	19.00	100.00	19.20	86.00	17.10	75.00	16.10	115.00	14.50	115.00	15.50
253.00	.10	100.00	18.60	123.00	13.70	119.00	14.00	100.00	18.80	100.00	16.90	135.00	10.30	135.00	10.10
274.00	-.90	123.00	15.60	133.00	9.80	138.00	9.40	117.00	14.20	132.00	9.30	150.00	4.30	150.00	9.20
303.00	-2.10	130.00	9.50	150.00	8.40	150.00	8.70	134.00	9.00	150.00	8.50	175.00	8.60	175.00	8.00
		150.00	7.60	175.00	7.40	175.00	7.50	150.00	8.60	175.00	9.00	200.00	6.70	200.00	7.90
		175.00	7.20	200.00	6.90	200.00	7.20	175.00	8.00	200.00	4.80	225.00	4.90	225.00	6.70
		200.00	7.30	225.00	0.00	225.00	5.50	200.00	5.80	225.00	7.00	250.00	1.50	250.00	5.00
		225.00	6.60	250.00	1.70	250.00	4.50	225.00	4.90	250.00	7.00	275.00	-.10	275.00	1.10
		250.00	4.80	275.00	-1.80	275.00	3.90	250.00	2.20	275.00	3.80			300.00	-.50
		275.00	3.10					275.00	5.00	300.00	1.50				
		300.00	1.40					300.00	2.20						
		325.00	-1.60					325.00	-.60						

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT

PROFILE 4

DATE 650119		DATE 650427		DATE 650907		DATE 651027		DATE 651222		DATE 660125		DATE 660321		DATE 660922	
SRVY	43	SRVY	44	SRVY	45	SRVY	46	SRVY	47	SRVY	48	SRVY	49	SRVY	50
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
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130.00	10.90	105.00	18.60	130.00	10.80	72.00	18.80	100.00	18.90	50.00	11.50	105.00	17.70	115.00	18.50
150.00	9.50	131.00	10.80	150.00	9.30	105.00	11.20	125.00	12.80	72.00	15.40	125.00	18.30	150.00	17.80
200.00	5.00	150.00	9.30	200.00	7.80	150.00	8.10	133.00	11.20	91.00	17.60	150.00	17.80	178.00	16.10
225.00	4.70	175.00	8.00	225.00	7.10	200.00	7.40	150.00	9.20	100.00	18.10	198.00	15.30	197.00	14.20
250.00	3.00	200.00	7.70	250.00	4.90	225.00	6.30	250.00	4.60	120.00	13.80	220.00	8.50	223.00	6.50
275.00	1.10	225.00	7.20	275.00	2.70	250.00	4.80	275.00	2.20	134.00	11.00	245.00	8.30	249.00	5.00
300.00	.50	250.00	4.60	300.00	.40	275.00	2.60	300.00	-.10	150.00	8.80	275.00	5.20	273.00	3.90
325.00	-1.10	275.00	3.40	325.00	-1.10	300.00	.30	325.00	-1.10	200.00	5.80	324.00	-.90	299.00	2.30
		300.00	-.80			325.00	-2.50	350.00	-2.10	225.00	4.00	339.00	-1.90	321.00	.00
		325.00	-1.20							250.00	3.00			339.00	-1.20
										275.00	1.00				
										300.00	0.00				

PROFILE 4

DATE 670116		DATE 670505		DATE 670920		DATE 671218		DATE 680117		DATE 680222		DATE 680327		DATE 681009	
SRVY	51	SRVY	52	SRVY	54	SRVY	55	SRVY	56	SRVY	57	SRVY	58	SRVY	59
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
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118.00	20.30	109.00	20.10	118.00	18.10	140.00	20.90	110.00	20.10	110.00	20.10	[illegible]	[illegible]	[illegible]	19.90
125.00	18.30	142.00	18.90	151.00	21.00	148.00	20.10	140.00	19.30	130.00	19.00	[illegible]	[illegible]	135.00	19.60
142.00	18.70	192.00	13.80	199.00	17.70	152.00	21.70	172.00	16.10	150.00	19.10	[illegible]	[illegible]	[illegible]	17.40
196.00	13.90	199.00	8.80	222.00	15.00	159.00	17.80	175.00	8.30	169.00	16.60	[illegible]	16.60	190.00	8.40
214.00	10.40	223.00	6.30	236.00	7.20	178.00	15.70	202.00	6.70	188.00	7.20	183.00	8.50	200.00	7.80
217.00	8.90	248.00	4.30	274.00	5.30	182.00	8.50	250.00	5.10	201.00	6.70	[illegible]	[illegible]	240.00	7.00
248.00	7.80	298.00	.90	298.00	2.80	199.00	6.90	274.00	1.90	250.00	2.80	236.00	5.30	265.00	6.30
274.00	6.90	397.00	-1.80	348.00	-.10	223.00	5.10	327.00	-1.00	276.00	.70	250.00	3.90	300.00	3.10
323.00	0.00	447.00	-2.30	374.00	-1.10	248.00	4.90	345.00	-2.00	300.00	-.30	300.00	4.30	350.00	.00
						273.00	3.80					320.00	2.80	400.00	-1.00
						323.00	-1.20					375.00	2.30		
						348.00	-1.50					400.00	1.90		
						373.00	-2.10								

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 4

DATE	681023	DATE	681113	DATE	681218	DATE	690115	DATE	690213	DATE	690309	DATE	690528	DATE	691020
SRVY	60	SRVY	61	SRVY	62	SRVY	63	SRVY	64	SRVY	65	SRVY	66	SRVY	68
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
110.00	19.90	110.00	19.90	110.00	19.90	110.00	20.00	110.00	19.90	110.00	19.90	110.00	20.00	110.00	19.90
135.00	19.70	135.00	20.00	135.00	20.30	135.00	19.50	135.00	19.80	143.00	20.20	135.00	20.20	130.00	20.50
160.00	17.30	155.00	17.80	155.00	17.90	155.00	18.00	154.00	17.80	156.00	7.30	163.00	6.70	138.00	16.20
192.00	8.50	160.00	9.30	165.00	9.20	167.00	9.00	166.00	9.10	171.00	6.10	200.00	7.10	162.00	7.20
225.00	8.10	200.00	6.00	200.00	6.90	200.00	7.00	175.00	8.90	200.00	2.10	216.00	7.20	175.00	7.40
250.00	8.40	250.00	3.20	250.00	6.00	225.00	6.60	200.00	6.80	250.00	-.60	221.00	6.20	200.00	7.60
266.00	6.30	300.00	1.10	267.00	6.20	250.00	6.00	225.00	6.30	300.00	-1.30	250.00	3.90	210.00	7.90
275.00	5.50			275.00	5.60	275.00	4.60	250.00	5.60			300.00	-.40	225.00	7.10
300.00	3.90			300.00	4.20	300.00	2.10	275.00	3.10			350.00	-3.90	243.00	4.50
325.00	3.20			325.00	2.50	325.00	-.70	300.00	1.20					250.00	4.00
350.00	2.30			350.00	.10	350.00	-1.80	325.00	-.10					275.00	2.40
375.00	1.10			375.00	-1.90			350.00	-.60					300.00	1.50
400.00	0.00			400.00	-2.30			375.00	-.80					325.00	.60
425.00	-1.00							400.00	-1.50					350.00	.30
								425.00	-1.50					375.00	0.00
														400.00	-.60
														425.00	-1.00

PROFILE 4

DATE	691118	DATE	691218	DATE	700120	DATE	700216	DATE	700319	DATE	700521	DATE	700826	DATE	701012
SRVY	69	SRVY	70	SRVY	71	SRVY	72	SRVY	73	SRVY	74	SRVY	75	SRVY	76
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
110.00	20.00	110.00	20.00	110.00	20.00	110.00	20.00	135.00	20.60	135.00	19.80	110.00	19.90	110.00	19.90
134.00	20.30	130.00	20.40	135.00	20.30	136.00	20.40	154.00	10.50	151.00	10.80	134.00	20.30	133.00	20.60
139.00	16.50	137.00	17.30	137.00	17.70	154.00	10.40	182.00	8.10	200.00	7.20	158.00	10.50	156.00	10.70
154.00	10.10	156.00	9.80	150.00	10.50	175.00	9.10	223.00	5.90	218.00	7.20	175.00	8.60	175.00	8.50
159.00	8.80	175.00	8.50	180.00	8.00	200.00	7.60	250.00	2.70	250.00	4.30	200.00	7.60	200.00	7.50
175.00	8.00	200.00	7.00	208.00	5.50	225.00	5.30	300.00	-.50	300.00	-.10	250.00	7.00	250.00	6.20
200.00	6.80	225.00	5.80	235.00	6.10	250.00	2.40	350.00	-1.90	356.00	-2.50	268.00	7.00	259.00	7.90
225.00	5.40	250.00	5.10	250.00	4.00	282.00	-1.70	375.00	-3.00			300.00	5.20	275.00	6.30
250.00	3.90	267.00	2.80	300.00	.90							325.00	2.60	300.00	2.80
275.00	3.00	275.00	2.20	350.00	-.60							350.00	0.00	350.00	1.80
303.00	1.30	300.00	1.20	400.00	-1.30							375.00	-1.50	400.00	.60
325.00	1.90	350.00	.80	406.00	-1.50							400.00	-2.00	450.00	-1.00
350.00	2.00	400.00	.20	411.00	-2.50							423.00	-1.90	510.00	-3.40
375.00	1.30	450.00	-.70									427.00	-1.50		
400.00	.50	495.00	-3.00									450.00	-1.30		
425.00	-.20											475.00	-2.20		
450.00	-1.00											495.00	-3.80		

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 4

DATE	701207	DATE	701218	DATE	710112	DATE	710208	DATE	710308	DATE	710408	DATE	710624	DATE	710817
SRVY	77	SRVY	78	SRVY	79	SRVY	80	SRVY	81	SRVY	82	SRVY	83	SRVY	85
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
110.00	19.80	110.00	20.00	110.00	20.00	110.00	19.90	110.00	19.90	110.00	20.00	110.00	19.90	110.00	19.90
132.00	20.30	134.00	19.90	125.00	19.80	125.00	20.00	132.00	20.20	134.00	20.40	134.00	20.30	133.00	20.20
152.00	11.30	176.00	11.30	133.00	20.40	134.00	20.20	147.00	12.60	146.00	14.30	154.00	12.30	137.00	17.50
157.00	12.10	181.00	11.80	150.00	11.60	150.00	11.80	151.00	12.70	156.00	11.70	178.00	8.40	155.00	12.40
189.00	8.00	200.00	6.50	155.00	12.60	155.00	12.50	160.00	10.50	205.00	6.10	200.00	8.70	162.00	10.10
200.00	7.20	250.00	4.00	175.00	8.80	175.00	8.40	175.00	8.80	235.00	5.60	230.00	8.00	210.00	8.20
225.00	5.80	300.00	.30	200.00	6.70	200.00	7.10	200.00	6.30	260.00	2.40	250.00	5.30	238.00	7.90
250.00	4.30	350.00	-1.30	230.00	7.20	225.00	5.00	209.00	5.60	285.00	-1.40	300.00	-1.70	250.00	5.90
300.00	1.80	400.00	-2.70	250.00	5.20	250.00	3.30	255.00	6.70	300.00	-2.40			300.00	.90
350.00	-.20			300.00	-.30	275.00	2.00	275.00	4.00					350.00	-1.30
375.00	-1.70			350.00	-1.80	300.00	.60	300.00	.20					400.00	-2.00
				400.00	-3.30	325.00	-1.20	315.00	-.60						
						345.00	-1.90								

PROFILE 4

DATE	711007	DATE	711219	DATE	720112	DATE	720215	DATE	720223	DATE	720313	DATE	720411	DATE	720823
SRVY	86	SRVY	87	SRVY	88	SRVY	89	SRVY	90	SRVY	91	SRVY	92	SRVY	93
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1100
110.00	19.90	110.00	20.00	110.00	19.90	110.00	20.00	110.00	19.90	110.00	20.00	110.00	19.90	110.00	19.40
133.00	20.30	132.00	20.20	131.00	20.40	133.00	20.30	135.00	20.30	134.00	20.40	133.00	20.90	133.00	21.40
155.00	12.90	160.00	11.00	160.00	11.00	161.00	11.30	158.00	13.20	157.00	12.60	157.00	12.00	163.00	10.60
172.00	9.10	200.00	8.60	200.00	8.60	200.00	6.40	165.00	11.50	163.00	11.50	195.00	8.90	200.00	9.00
200.00	9.00	222.00	5.50	250.00	7.40	240.00	8.00	180.00	8.70	204.00	7.10	200.00	7.20	250.00	6.50
225.00	8.60	255.00	4.70	266.00	6.60	275.00	3.50	200.00	7.70	243.00	8.00	250.00	2.70	265.00	6.50
250.00	6.10	300.00	-.10	300.00	3.60	325.00	-2.00	250.00	5.50	300.00	.10	300.00	-2.40	300.00	3.10
300.00	-1.00	350.00	-1.30	350.00	-2.40			277.00	5.20	325.00	-3.00			350.00	-2.00
350.00	-2.00	400.00	-2.30					300.00	1.70						
								325.00	-2.30						

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 4

DATE	721017	DATE	721205	DATE	730103	DATE	730213
SRVY	94	SRVY	95	SRVY	96	SRVY	97
TIME	900	TIME	1000	TIME	1000	TIME	1000
110.00	19.90	110.00	19.90	110.00	19.90	110.00	20.00
134.00	20.40	130.00	20.60	134.00	20.20	132.00	20.70
139.00	17.80	151.00	13.70	149.00	14.60	138.00	17.70
149.00	14.70	171.00	10.70	166.00	11.00	149.00	14.60
156.00	13.30	193.00	9.20	188.00	7.80	163.00	11.40
163.00	11.20	200.00	8.00	200.00	6.80	165.00	10.00
200.00	8.50	225.00	5.50	225.00	5.70	178.00	8.00
239.00	6.00	250.00	2.20	250.00	2.60	182.00	6.10
250.00	5.20	275.00	-.70	275.00	-1.80	200.00	4.30
300.00	.20					250.00	.90
325.00	-2.80					300.00	-1.90

DATE	730313	DATE	730328	DATE	730402	DATE	730417
SRVY	98	SRVY	99	SRVY	100	SRVY	101
TIME	1100	TIME	1600	TIME	1200	TIME	1000
110.00	20.20	110.00	20.10	110.00	19.90	110.00	20.00
132.00	20.60	133.00	20.50	132.00	20.50	132.00	20.60
141.00	16.50	149.00	14.90	134.00	17.70	147.00	15.30
162.00	11.30	160.00	7.00	146.00	15.20	157.00	9.20
160.00	9.70	200.00	3.00	156.00	7.80	200.00	5.10
200.00	4.30	250.00	0.00	178.00	5.80	225.00	1.90
250.00	-2.60	267.00	-1.50	200.00	4.00	250.00	-1.10
				251.00	-1.00	275.00	-1.50

PROFILE 4

DATE	730612
SRVY	103
TIME	900
110.00	20.00
120.00	20.70
133.00	20.90
147.00	15.10
156.00	9.80
200.00	7.50
250.00	6.10
275.00	4.50
300.00	1.30
325.00	-1.60

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 4

DATE 630319		DATE 630326		DATE 630408		DATE 631010		DATE 631025		DATE 631115		DATE 631227		DATE 640115	
SRVY	18	SRVY	19	SRVY	20	SRVY	30	SRVY	31	SRVY	32	SRVY	33	SRVY	34
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
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119.00	14.30	176.00	6.30	165.00	6.70	-1.00	10.50	101.00	9.30	100.00	9.40	8.00	10.70	52.00	12.20
127.00	9.90	191.00	5.90	167.00	6.40	50.00	11.30	116.00	10.40	116.00	11.80	52.00	12.50	75.00	16.50
151.00	7.80	227.00	2.80	175.00	6.30	74.00	13.90	120.00	9.30	126.00	11.00	76.00	15.90	100.00	16.40
200.00	5.90	252.00	0.00	191.00	6.40	101.00	9.50	152.00	9.70	177.00	5.50	101.00	10.90	123.00	13.20
226.00	4.20	277.00	-2.10	201.00	5.20	127.00	10.10	176.00	7.10	202.00	1.40	125.00	11.90	130.00	8.00
251.00	.20			227.00	2.80	151.00	9.80	202.00	4.20	227.00	-.90	202.00	4.50	150.00	6.00
270.00	-.90			251.00	0.00	176.00	7.60	252.00	-.60			227.00	2.90	175.00	5.40
				276.00	-1.50	205.00	4.90	276.00	-1.80			254.00	0.00	200.00	4.10
						226.00	1.40					276.00	-1.90	225.00	3.10
						252.00	-.40							250.00	1.30
						279.00	-1.40							275.00	.70
														300.00	-1.10
														325.00	-1.30

PROFILE 4

DATE 640212		DATE 640310		DATE 640407		DATE 640525		DATE 640623		DATE 640829		DATE 640924		DATE 641201	
SRVY	35	SRVY	36	SRVY	37	SRVY	38	SRVY	39	SRVY	40	SRVY	41	SRVY	42
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
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131.00	9.00	52.00	12.20	52.00	12.30	52.00	12.50	52.00	12.00	25.00	11.90	85.00	17.30	85.00	16.80
202.00	9.20	74.00	16.20	75.00	16.10	75.00	16.20	75.00	16.20	50.00	12.30	97.00	19.50	97.00	16.50
227.00	1.60	87.00	17.60	100.00	19.00	100.00	19.20	86.00	17.10	75.00	16.10	115.00	14.50	115.00	15.50
253.00	.10	100.00	18.60	123.00	13.70	119.00	14.00	100.00	18.80	100.00	16.90	135.00	10.30	135.00	10.10
279.00	-.90	123.00	13.60	133.00	9.80	130.00	9.40	117.00	14.20	132.00	9.30	150.00	9.30	150.00	9.20
303.00	-2.10	130.00	9.50	150.00	8.40	150.00	8.70	134.00	9.00	150.00	8.50	175.00	8.60	175.00	8.60
		150.00	7.60	175.00	7.40	175.00	7.50	150.00	8.60	175.00	9.80	200.00	6.70	200.00	7.90
		175.00	7.20	200.00	6.90	200.00	7.20	175.00	8.00	200.00	9.80	225.00	4.90	225.00	4.70
		200.00	7.30	225.00	4.40	225.00	5.50	200.00	5.80	225.00	7.00	250.00	1.50	250.00	3.00
		225.00	6.60	250.00	1.70	250.00	4.50	225.00	4.90	250.00	7.00	275.00	-.10	275.00	1.10
		250.00	4.80	275.00	-1.80	275.00	3.90	250.00	2.20	275.00	3.80			300.00	-.90
		275.00	3.10					275.00	5.00	300.00	1.50				
		300.00	1.40					300.00	2.20						
		325.00	-1.60					325.00	-.60						

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 5

DATE 620926		DATE 620928		DATE 621011		DATE 621023		DATE 621029		DATE 621108		DATE 621210		DATE 630115	
SRVY	1	SRVY	2	SRVY	4	SRVY	5	SRVY	6	SRVY	7	SRVY	8	SRVY	9
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
333.00	17.60	398.00	14.30	367.00	13.40	385.00	18.90	386.00	18.90	384.00	18.60	350.00	16.80	317.00	18.40
351.00	15.40	420.00	11.00	375.00	17.40	417.00	11.40	415.00	11.60	410.00	12.00	364.00	14.90	332.00	17.70
363.00	14.60	439.00	8.90	385.00	19.10	440.00	8.60	439.00	8.60	440.00	8.90	383.00	17.90	341.00	16.50
368.00	12.80	457.00	7.90	409.00	12.60	473.00	8.20	473.00	8.00	483.00	5.40	414.00	11.90	349.00	16.00
385.00	10.50	480.00	4.80	436.00	9.70	500.00	5.00	507.00	4.90	520.00	6.30	451.00	8.70	367.00	16.30
399.00	10.00	503.00	2.30	467.00	7.90	529.00	2.10	555.00	-.20	559.00	1.50	481.00	6.10	382.00	17.50
418.00	11.20	521.00	.90	484.00	6.30	563.00	-1.90	599.00	-3.10	612.00	-3.00	502.00	5.60	417.00	10.40
448.00	8.10	545.00	.40	509.00	4.00			695.00	-4.60			544.00	1.80	467.00	8.00
472.00	7.20	572.00	.10	539.00	0.00			728.00	-3.20			579.00	-2.50	504.00	6.60
498.00	5.30	593.00	-.60	570.00	-2.40							604.00	-5.10	517.00	4.00
518.00	3.30													569.00	-2.50
538.00	.10														
560.00	-1.10														
580.00	-1.70														

PROFILE 5

DATE 630121		DATE 630128		DATE 630212		DATE 630220		DATE 630226		DATE 630304		DATE 630311		DATE 630319	
SRVY	10	SRVY	11	SRVY	13	SRVY	14	SRVY	15	SRVY	16	SRVY	17	SRVY	18
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
507.00	6.20	318.00	18.10	418.00	11.00	418.00	11.00	495.00	6.80	468.00	7.60	493.00	6.70	444.00	8.60
517.00	4.00	348.00	16.20	444.00	8.90	442.00	8.80	518.00	5.60	503.00	6.40	517.00	5.40	467.00	7.40
568.00	-1.00	358.00	16.10	494.00	6.70	468.00	7.50	508.00	1.80	518.00	5.10	521.00	5.50	506.00	6.40
		382.00	16.80	520.00	5.30	493.00	6.80	610.00	-1.10	543.00	3.40	544.00	3.70	543.00	1.90
		417.00	10.90	543.00	2.70	519.00	5.00			568.00	1.00	568.00	.20	593.00	-1.20
		517.00	4.10	569.00	.90	568.00	2.00			592.00	-.60	593.00	-1.70		
		569.00	-1.00	594.00	-1.80	644.00	-1.70			618.00	-1.80				
		618.00	-2.80												

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 5

DATE 630326		DATE 630408		DATE 630528		DATE 630613		DATE 630625		DATE 630711		DATE 630723		DATE 630806	
SRVY	19	SRVY	20	SRVY	21	SRVY	22	SRVY	23	SRVY	24	SRVY	25	SRVY	26
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
469.00	7.50	418.00	11.00	318.00	18.30	492.00	7.00	492.00	7.00	417.00	11.00	443.00	9.00	532.00	8.60
490.00	7.30	443.00	8.60	348.00	16.40	523.00	7.50	518.00	7.90	442.00	9.00	469.00	7.30	543.00	1.80
521.00	6.70	493.00	6.90	367.00	16.10	542.00	6.10	523.00	8.00	467.00	7.80	493.00	7.10	618.00	-2.00
524.00	5.30	520.00	6.70	382.00	16.70	570.00	2.80	549.00	5.40	492.00	7.10	517.00	8.20		
542.00	2.80	523.00	5.30	418.00	11.00	618.00	-.40	568.00	3.00	518.00	7.90	533.00	8.60		
570.00	.30	542.00	2.20	467.00	7.40	644.00	-2.10	618.00	0.00	531.00	8.10	543.00	6.40		
594.00	-2.20	570.00	0.00	492.00	6.80			642.00	-2.10	543.00	8.50	568.00	3.00		
		593.00	-1.90	518.00	6.90					568.00	2.30	593.00	1.30		
				542.00	5.30					619.00	.30	618.00	1.00		
				568.00	2.70					633.00	-.70	632.00	.30		
				618.00	-1.10							643.00	-.60		
				644.00	-2.40										

PROFILE 5

DATE 630820		DATE 630906		DATE 630926		DATE 631010		DATE 631025		DATE 631115		DATE 631227		DATE 640115	
SRVY	27	SRVY	28	SRVY	29	SRVY	30	SRVY	31	SRVY	32	SRVY	33	SRVY	34
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
441.00	8.90	492.00	7.20	373.00	16.50	418.00	10.70	443.00	8.60	418.00	10.90	318.00	18.00	15.00	7.60
467.00	7.30	519.00	8.50	418.00	10.90	468.00	6.50	469.00	6.90	444.00	9.00	342.00	16.00	65.00	7.00
493.00	7.20	520.00	6.30	444.00	9.50	493.00	7.60	493.00	7.90	469.00	8.30	378.00	18.00	117.00	7.30
520.00	8.20	544.00	4.40	469.00	7.80	512.00	8.10	519.00	7.00	495.00	7.00	418.00	11.00	143.00	5.40
533.00	8.30	568.00	2.60	498.00	6.40	519.00	5.90	545.00	2.40	520.00	4.50	433.00	9.00	166.00	5.50
542.00	5.90	594.00	1.50	519.00	7.30	570.00	-.70	571.00	.80	544.00	.80	494.00	7.50	191.00	6.90
567.00	2.30	620.00	.10	544.00	6.80	585.00	-2.50			569.00	-1.00	520.00	5.70	217.00	7.70
619.00	-.90			570.00	1.20							545.00	3.30	241.00	11.10
												570.00	2.80	267.00	12.70
												595.00	1.30	290.00	17.40
												620.00	-.40	318.00	18.30
												645.00	-2.00	343.00	18.50
														378.00	17.00
														420.00	10.80
														469.00	5.30
														496.00	4.40
														520.00	3.00
														545.00	1.20
														597.00	-.60
														621.00	-2.60

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 5

DATE	640212	DATE	640310	DATE	640407	DATE	640525	DATE	640623	DATE	640829	DATE	640924	DATE	641201
SRVY	35	SRVY	36	SRVY	37	SRVY	38	SRVY	39	SRVY	40	SRVY	41	SRVY	42
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
419.00	11.10	344.00	16.50	343.00	16.60	318.00	18.00	317.00	18.00	318.00	18.40	362.00	17.20	359.00	16.50
444.00	8.20	371.00	17.90	372.00	18.30	343.00	16.30	369.00	18.20	387.00	17.20	369.00	18.10	364.00	17.70
469.00	7.60	390.00	16.70	386.00	17.80	368.00	17.40	389.00	16.90	418.00	10.90	386.00	18.00	397.00	16.40
485.00	7.70	419.00	10.70	408.00	12.40	343.00	17.70	414.00	11.00	445.00	9.10	419.00	11.10	418.00	12.00
494.00	5.80	446.00	8.50	445.00	9.20	393.00	15.70	444.00	9.00	468.00	11.50	443.00	10.20	443.00	10.50
520.00	3.70	495.00	6.60	469.00	9.10	408.00	12.00	469.00	9.50	494.00	8.40	469.00	10.50	469.00	10.10
570.00	.80	520.00	2.90	497.00	6.90	444.00	9.10	495.00	7.40	519.00	7.10	495.00	8.60	494.00	9.50
594.00	-1.10	545.00	1.10	520.00	8.00	469.00	8.80	519.00	6.00	544.00	7.50	518.00	6.70	519.00	6.60
		571.00	-.10	545.00	.70	494.00	7.90	533.00	5.40	561.00	7.50	552.00	3.10	545.00	3.90
		594.00	-1.20	570.00	-1.60	519.00	3.80	595.00	-3.10	595.00	1.60	570.00	1.00	569.00	-.40
				590.00	-2.50	570.00	-1.90			620.00	-.60	587.00	-.10		

PROFILE 5

DATE	650119	DATE	650427	DATE	650907	DATE	651027	DATE	651222	DATE	660125	DATE	660321	DATE	660922
SRVY	43	SRVY	44	SRVY	45	SRVY	46	SRVY	47	SRVY	48	SRVY	49	SRVY	50
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
409.00	12.10	360.00	16.50	360.00	16.50	360.00	16.40	377.00	17.90	317.00	18.30	407.00	12.30	380.00	20.40
419.00	11.40	393.00	17.00	388.00	17.80	383.00	16.30	393.00	17.40	350.00	16.60	402.00	9.70	407.00	12.20
446.00	10.50	417.00	12.50	410.00	12.30	409.00	12.50	413.00	12.10	371.00	19.00	467.00	7.00	443.00	8.80
458.00	9.90	445.00	9.80	444.00	9.70	419.00	11.40	468.00	8.70	392.00	17.40	493.00	7.60	467.00	8.40
495.00	6.50	496.00	7.60	468.00	8.40	464.00	8.70	524.00	8.40	411.00	12.60	518.00	7.80	506.00	8.80
519.00	4.90	520.00	6.10	494.00	8.10	519.00	8.90	557.00	6.40	418.00	11.90	543.00	5.50	517.00	3.50
550.00	5.10	595.00	-3.40	537.00	7.80	539.00	8.50	569.00	5.00	468.00	8.10	594.00	.50	593.00	-.20
595.00	1.70			545.00	6.20	620.00	.50	595.00	1.60	519.00	5.60	619.00	-1.50	619.00	-.30
646.00	-1.10			570.00	2.80	633.00	-1.60	620.00	-.70	569.00	2.10	669.00	-3.40		
671.00	-2.60			595.00	-.20			646.00	-1.70	619.00	0.00				
				616.00	-2.10			696.00	-2.20						
								721.00	-2.70						
								746.00	-3.70						

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 5

DATE	670110	DATE	670505	DATE	670920	DATE	671218	DATE	680117	DATE	680227	DATE	680327	DATE	681009
SRVY	51	SRVY	52	SRVY	54	SRVY	55	SRVY	56	SRVY	57	SRVY	58	SRVY	59
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
368.00	19.30	367.00	18.80	366.00	19.20	378.00	19.10	318.00	18.40	318.00	18.60	318.00	18.40	343.00	16.90
384.00	18.80	396.00	17.90	392.00	16.90	392.00	17.60	350.00	17.90	367.00	18.50	353.00	17.90	353.00	18.20
399.00	15.00	411.00	12.40	418.00	12.20	411.00	13.00	364.00	19.30	383.00	18.60	366.00	19.20	363.00	19.60
422.00	11.50	418.00	11.60	445.00	10.10	469.00	9.40	385.00	18.70	398.00	17.10	391.00	18.30	383.00	19.00
444.00	9.00	468.00	9.40	518.00	7.90	518.00	7.70	398.00	16.50	417.00	15.00	411.00	13.30	393.00	16.50
493.00	8.50	519.00	6.90	543.00	7.90	602.00	4.00	417.00	12.60	442.00	10.50	464.00	9.00	418.00	12.60
519.00	[illegible].40	566.00	5.80	569.00	5.90	669.00	-2.70	492.00	6.80	468.00	9.10	518.00	8.50	438.00	10.80
554.00	7.90	594.00	2.80	594.00	2.90			518.00	6.80	493.00	8.90	568.00	6.50	468.00	9.00
570.00	6.00	618.00	-.50	619.00	-.40			543.00	6.00	517.00	8.30	616.00	1.80	518.00	9.20
594.00	2.30	644.00	-2.40	643.00	-1.00			567.00	3.90	543.00	6.80	667.00	-2.90	543.00	9.70
619.00	.10	654.00	-3.00	657.00	-2.00			606.00	-.10	567.00	4.70			548.00	8.70
634.00	-.30							617.00	-1.30	593.00	1.40			550.00	6.70
								632.00	-2.30	618.00	-.30			568.00	4.20
														593.00	2.20
														618.00	1.00
														643.00	-.60
														668.00	-1.80

PROFILE 5

DATE	681023	DATE	681113	DATE	681218	DATE	690115	DATE	690213	DATE	690304	DATE	690924	DATE	691020
SRVY	60	SRVY	61	SRVY	62	SRVY	63	SRVY	64	SRVY	65	SRVY	67	SRVY	68
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
318.00	18.40	318.00	18.40	318.00	18.50	318.00	18.40	318.00	18.50	318.00	18.40	347.00	16.50	350.00	16.60
343.00	16.90	348.00	18.00	348.00	17.40	358.00	19.10	358.00	18.50	350.00	18.30	365.00	18.80	369.00	16.90
353.00	18.30	378.00	19.40	378.00	19.50	383.00	18.60	385.00	18.40	368.00	19.50	375.00	18.00	374.00	16.60
363.00	19.20	395.00	15.60	395.00	16.40	398.00	16.10	398.00	16.30	386.00	18.10	400.00	14.60	400.00	14.40
383.00	19.40	410.00	13.40	410.00	13.60	418.00	13.10	418.00	13.20	398.00	16.10	429.00	11.90	432.00	11.60
393.00	16.80	468.00	8.20	418.00	13.10	443.00	10.50	443.00	10.80	418.00	13.20	450.00	10.60	450.00	10.90
418.00	12.70	518.00	5.50	468.00	8.20	468.00	8.00	468.00	9.20	443.00	10.70	472.00	9.90	475.00	9.50
443.00	10.40	568.00	3.60	518.00	6.00	518.00	7.00	493.00	9.10	468.00	10.90	500.00	9.80	500.00	9.70
468.00	-.60	618.00	2.10	558.00	6.90	553.00	6.50	518.00	8.60	493.00	9.10	525.00	7.00	525.00	6.50
		668.00	.10	568.00	6.40	568.00	5.30	543.00	8.30	518.00	6.90	550.00	4.60	550.00	4.40
		693.00	-1.40	593.00	4.50	593.00	2.80	568.00	6.20	534.00	6.10	575.00	2.50	575.00	2.40
				618.00	2.10	618.00	.30	593.00	3.30	568.00	3.40	600.00	-.90	600.00	.60
				643.00	-.30	643.00	-1.60	618.00	.40	618.00	-2.10	625.00	-1.50	625.00	.10
				668.00	-1.20			643.00	-2.10	643.00	-3.20	650.00	-2.60	650.00	.20
				693.00	-1.80			668.00	-3.70					675.00	-.50
				718.00	-1.50									700.00	-1.40
				743.00	1.00									725.00	-1.60
				768.00	1.40										
				793.00	-2.20										

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 5

DATE 691118 SRVY 69 TIME	1200	DATE 691218 SRVY 70 TIME	1200	DATE 700120 SRVY 71 TIME	1200	DATE 700216 SRVY 72 TIME	1200	DATE 700319 SRVY 73 TIME	1200	DATE 700521 SRVY 74 TIME	1200	DATE 700828 SRVY 75 TIME	1200	DATE 701012 SRVY 76 TIME	1200
350.00	17.00	350.00	17.00	350.00	16.80	350.00	16.70	550.00	17.20	300.00	15.50	350.00	17.50	350.00	17.50
361.00	18.60	374.00	18.60	375.00	18.80	380.00	17.50	400.00	16.00	350.00	16.70	368.00	18.00	382.00	18.90
374.00	18.60	395.00	15.80	400.00	15.70	400.00	15.60	450.00	11.10	400.00	17.70	379.00	19.00	400.00	16.00
400.00	15.80	409.00	15.10	431.00	12.10	434.00	12.40	500.00	8.60	441.00	11.80	400.00	16.00	429.00	13.50
431.00	11.90	433.00	11.80	450.00	10.40	450.00	11.00	514.00	8.10	483.00	6.50	435.00	12.10	450.00	10.40
450.00	11.10	450.00	11.00	494.00	5.80	500.00	7.50	550.00	3.90	500.00	7.80	450.00	10.60	500.00	8.40
475.00	9.10	475.00	9.20	534.00	6.90	550.00	4.80	600.00	0.00	550.00	2.70	500.00	8.60	540.00	7.50
500.00	7.10	500.00	6.90	550.00	4.80	600.00	1.30	650.00	-1.30	578.00	-.40	525.00	6.20	550.00	6.60
525.00	6.30	532.00	3.80	600.00	.30	650.00	-1.70	750.00	-2.80	600.00	-1.20	550.00	3.10	610.00	1.70
553.00	6.20	550.00	4.40	650.00	-1.60	700.00	-.70			650.00	-2.00	555.00	-1.00	650.00	-.40
575.00	3.70	575.00	2.30	686.00	-2.10							567.00	.20	700.00	-2.00
600.00	.30	600.00	1.20									575.00	.60	725.00	-1.30
611.00	-.70	650.00	-.50									600.00	0.00		
613.00	-1.50	700.00	-2.30									625.00	-.70		
625.00	-1.90	735.00	-3.10									650.00	-1.70		
650.00	-1.90	755.00	-2.60									675.00	-2.80		
658.00	-1.80	800.00	-4.00									700.00	-2.80		
663.00	-.70														
675.00	-.80														
700.00	-1.00														
725.00	-1.20														
750.00	-2.30														
770.00	-3.00														

PROFILE 5

DATE 701207 SRVY 77 TIME	1200	DATE 701218 SRVY 78 TIME	1200	DATE 710112 SRVY 79 TIME	1200	DATE 710208 SRVY 80 TIME	1200	DATE 710308 SRVY 81 TIME	1200	DATE 710408 SRVY 82 TIME	1200	DATE 710629 SRVY 84 TIME	1200	DATE 710817 SRVY 85 TIME	1200
350.00	18.00	357.00	18.40	333.00	16.20	338.00	16.90	343.00	16.90	345.00	17.00	313.00	15.60	313.00	15.60
372.00	18.30	375.00	17.40	359.00	18.80	345.00	16.10	357.00	19.10	355.00	19.10	333.00	18.00	343.00	17.[illegible]
380.00	18.30	400.00	16.00	375.00	17.50	375.00	17.90	383.00	18.00	380.00	19.40	350.00	18.00	350.00	18.50
400.00	16.00	425.00	13.50	400.00	15.70	400.00	15.80	400.00	16.20	400.00	16.30	377.00	19.10	377.00	19.20
425.00	13.60	450.00	10.60	450.00	11.00	425.00	13.50	425.00	14.00	430.00	14.60	400.00	16.70	400.00	16.70
450.00	10.50	475.00	8.20	480.00	7.50	450.00	10.60	450.00	11.10	480.00	10.90	415.00	19.20	419.00	15.50
475.00	7.80	500.00	5.70	500.00	7.00	465.00	9.10	475.00	7.90	510.00	7.30	427.00	15.30	450.00	11.90
500.00	7.80	521.00	4.30	516.00	7.20	485.00	7.60	508.00	5.70	550.00	4.80	450.00	11.50	500.00	9.30
525.00	6.80	552.00	4.80	550.00	4.00	500.00	6.10	539.00	6.90	600.00	-.20	478.00	10.10	506.00	9.00
550.00	5.20	575.00	2.20	600.00	-1.10	525.00	4.10	550.00	6.00	625.00	-2.20	500.00	8.00	550.00	2.00
575.00	2.20	600.00	.30	640.00	-3.50	550.00	2.70	575.00	3.00			525.00	5.00	600.00	-1.[illegible]
583.00	1.20	650.00	-2.00			575.00	1.00	600.00	.00			550.00	1.90	650.00	-2.50
588.00	.10	656.00	-2.70			600.00	-.40	619.00	-1.70			600.00	-2.30		
600.00	-.50					615.00	-1.00								
625.00	-.30														
650.00	-1.00														

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 5

DATE	711007	DATE	711214	DATE	720112	DATE	720215	DATE	720223	DATE	720313	DATE	720411	DATE	720823
SRVY	86	SRVY	87	SRVY	88	SRVY	89	SRVY	90	SRVY	91	SRVY	92	SRVY	93
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1100
----	------	----	------	----	------	----	------	----	------	----	------	----	------	----	------
335.00	16.80	335.00	17.30	336.00	16.80	338.00	16.00	339.00	16.90	337.00	16.70	338.00	16.90	338.00	16.10
350.00	18.60	355.00	19.30	351.00	18.40	357.00	19.40	350.00	19.00	360.00	19.30	350.00	18.80	350.00	19.10
379.00	19.00	400.00	17.10	389.00	17.70	400.00	17.20	384.00	17.90	400.00	18.10	363.00	19.20	375.00	18.00
400.00	16.70	450.00	11.20	400.00	16.80	469.00	9.20	400.00	16.80	443.00	13.30	395.00	17.20	400.00	16.70
450.00	10.80	476.00	10.30	450.00	11.40	500.00	7.00	433.00	13.60	454.00	9.60	429.00	13.50	440.00	10.30
486.00	10.50	500.00	8.60	500.00	9.00	550.00	2.60	442.00	10.10	500.00	7.80	443.00	10.00	450.00	10.20
500.00	9.00	550.00	4.70	507.00	8.30	600.00	-1.90	450.00	8.80	518.00	8.00	450.00	10.10	500.00	6.70
525.00	6.00	600.00	-.80	550.00	4.90			500.00	5.90	550.00	4.10	464.00	8.50	509.00	8.80
550.00	2.30	625.00	-2.90	600.00	.40			550.00	4.40	600.00	-1.00	500.00	6.80	550.00	4.00
600.00	-.50			625.00	-1.10			600.00	-1.60	625.00	-3.00	550.00	.30	600.00	-1.50
650.00	-1.50			650.00	-3.10			615.00	-2.60			600.00	-2.10	625.00	-2.50

PROFILE 5

DATE	721017	DATE	721205	DATE	730103	DATE	730213	DATE	730315	DATE	730329	DATE	730402	DATE	730917
SRVY	94	SRVY	95	SRVY	96	SRVY	97	SRVY	98	SRVY	99	SRVY	100	SRVY	101
TIME	900	TIME	1000	TIME	1000	TIME	1000	TIME	1200	TIME	1600	TIME	1200	TIME	1000
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335.00	16.80	335.00	16.40	313.00	15.50	350.00	19.00	350.00	18.90	350.00	18.90	350.00	19.00	350.00	18.80
350.00	18.80	350.00	18.50	350.00	19.00	357.00	19.30	381.00	17.70	400.00	17.30	362.00	19.10	360.00	19.20
392.00	17.80	360.00	19.30	380.00	18.10	387.00	17.30	400.00	17.00	430.00	14.80	379.00	17.90	400.00	17.10
400.00	16.80	400.00	17.20	400.00	17.20	400.00	16.90	429.00	14.90	436.00	13.10	400.00	18.10	430.00	15.00
418.00	15.30	417.00	15.80	419.00	15.60	442.00	12.00	438.00	12.00	450.00	11.50	425.00	16.30	439.00	12.60
437.00	12.00	452.00	11.20	442.00	11.80	450.00	11.50	450.00	11.20	500.00	6.70	438.00	15.00	450.00	11.50
450.00	11.00	494.00	10.30	450.00	10.40	500.00	6.40	487.00	10.10	550.00	1.40	450.00	12.40	478.00	10.20
500.00	7.30	525.00	4.50	468.00	8.90	550.00	.30	500.00	8.10	575.00	-1.40	488.00	10.10	510.00	7.40
516.00	7.40	550.00	1.20	500.00	7.60	570.00	-2.00	550.00	1.30			500.00	8.70	529.00	7.30
525.00	5.90	575.00	-.60	525.00	5.10			575.00	-1.90			525.00	5.40	550.00	5.10
550.00	2.80			550.00	2.40							550.00	1.90	575.00	-.40
575.00	-1.10			575.00	-2.10							575.00	-1.10	591.00	-2.10
600.00	-.50											580.00	-2.40		
650.00	-1.70														

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 5

DATE	730612
SRVY	103
TIME	1000
350.00	18.60
360.00	19.10
400.00	17.80
450.00	11.70
500.00	9.70
503.00	8.40
522.00	7.70
525.00	7.30
550.00	3.30
575.00	-.10
592.00	-1.90

PROFILE 6

DATE	620926
SRVY	1
TIME	1200
209.00	5.60
290.00	6.90
326.00	10.20
347.00	12.90
358.00	12.00
370.00	14.50
398.00	17.90
415.00	14.60
440.00	12.70
464.00	13.90
474.00	10.00
495.00	6.80
520.00	3.60
543.00	.90
565.00	-1.70

DATE	620928
SRVY	2
TIME	1200
370.00	14.40
397.00	14.30
415.00	14.60
437.00	13.30
461.00	12.70
463.00	13.50
473.00	10.10
475.00	8.10
487.00	6.30
505.00	4.00
531.00	2.00
555.00	.20
570.00	-1.00

DATE	621011
SRVY	4
TIME	1200
378.00	14.50
413.00	14.60
468.00	13.00
480.00	8.60
500.00	7.90
518.00	6.60
541.00	3.90
572.00	.80
596.00	-.70
626.00	-2.40

DATE	621023
SRVY	5
TIME	1200
375.00	14.50
407.00	14.60
468.00	13.00
480.00	9.00
506.00	8.90
526.00	6.20
561.00	1.70
590.00	-.90

DATE	621029
SRVY	6
TIME	1200
460.00	12.80
482.00	9.10
508.00	8.50
525.00	6.30
520.00	5.50
564.00	1.20
605.00	-2.00
635.00	-3.00

DATE	621108
SRVY	7
TIME	1200
415.00	14.60
466.00	12.50
473.00	9.00
505.00	6.20
538.00	5.80
582.00	2.10
625.00	-2.20

DATE	621210
SRVY	8
TIME	1200
380.00	13.30
415.00	11.50
439.00	12.90
465.00	12.60
472.00	10.00
505.00	9.50
551.00	6.80
602.00	1.90
631.00	-2.20
683.00	-4.10
738.00	-4.70
753.00	-5.10
806.00	-2.90
876.00	-2.90

DATE	630115
SRVY	9
TIME	1200
.00	4.60
100.00	6.00
200.00	5.40
275.00	5.80
300.00	7.20
340.00	13.60
370.00	15.60
410.00	14.40
449.00	12.00
453.00	12.60
457.00	12.50
462.00	11.60
500.00	8.90
535.00	9.40
572.00	4.80
601.00	1.30
651.00	-2.60

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 6

DATE	630121	DATE	630128	DATE	630204	DATE	630212	DATE	630220	DATE	630226	DATE	630304	DATE	630311
SRVY	10	SRVY	11	SRVY	12	SRVY	13	SRVY	14	SRVY	15	SRVY	16	SRVY	17
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
553.00	7.10	421.00	12.90	500.00	8.50	400.00	13.40	471.00	9.70	409.00	14.10	551.00	7.40	459.00	12.20
574.00	4.70	456.00	12.20	526.00	8.50	410.00	14.30	500.00	8.30	422.00	12.60	575.00	6.20	470.00	9.50
600.00	1.60	469.00	9.40	551.00	7.20	422.00	12.70	551.00	7.40	458.00	12.30	600.00	4.20	501.00	8.20
651.00	-1.70	500.00	8.50	576.00	5.30	458.00	11.80	583.00	4.90	470.00	9.50	626.00	3.90	525.00	7.50
		525.00	8.50	601.00	1.90	471.00	9.50	626.00	2.00	501.00	8.20	651.00	1.40	551.00	7.10
		542.00	8.30	625.00	-.20	501.00	8.50	702.00	-1.10	546.00	7.50	676.00	0.00	577.00	6.00
		552.00	6.80	676.00	-.50	525.00	8.20			577.00	5.80	701.00	-1.20	604.00	5.50
		601.00	2.40			542.00	8.00			598.00	4.10			651.00	.40
		625.00	.50			577.00	5.80			613.00	4.50			676.00	-1.50
		646.00	-.70			602.00	2.60			650.00	1.50				
						627.00	.60			677.00	.40				
						651.00	-.90			702.00	-.90				

PROFILE 6

DATE	630319	DATE	630326	DATE	630408	DATE	630528	DATE	630613	DATE	630625	DATE	630711	DATE	630725
SRVY	18	SRVY	19	SRVY	20	SRVY	21	SRVY	22	SRVY	23	SRVY	24	SRVY	25
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
552.00	7.10	419.00	12.60	400.00	13.60	0.00	4.90	450.00	10.70	450.00	10.80	550.00	7.80	375.00	14.50
577.00	5.90	459.00	11.80	410.00	14.20	50.00	5.80	501.00	7.80	473.00	6.90	575.00	8.30	401.00	14.10
601.00	2.50	471.00	9.90	420.00	12.00	100.00	5.90	525.00	7.30	501.00	7.80	600.00	4.70	425.00	11.90
625.00	.40	501.00	8.10	460.00	12.80	150.00	6.00	575.00	7.20	525.00	7.30	625.00	1.20	451.00	10.50
677.00	-1.40	527.00	7.60	470.00	10.00	250.00	5.00	601.00	6.00	551.00	7.80	651.00	-.20	476.00	8.80
		552.00	7.50	500.00	8.40	300.00	6.80	626.00	2.80	575.00	7.50	677.00	-1.00	501.00	7.60
		572.00	6.40	525.00	7.90	324.00	9.90	651.00	.90	601.00	5.00			525.00	7.30
		583.00	6.30	550.00	7.60	335.00	13.80	677.00	0.00	626.00	1.70			550.00	6.60
		601.00	4.00	575.00	7.00	345.00	15.90	702.00	-1.10	635.00	.20			575.00	8.00
		652.00	0.00	578.00	5.40	351.00	16.00			651.00	-.70			612.00	4.40
		677.00	-2.10	600.00	3.00	354.00	15.10							625.00	2.40
				625.00	.20	376.00	14.40							652.00	1.00
				650.00	-.50	401.00	13.00							676.00	-.70
				675.00	-1.70	410.00	14.30								
						425.00	12.30								
						475.00	9.20								
						501.00	7.90								
						525.00	7.30								
						552.00	7.30								
						576.00	7.40								
						590.00	7.20								
						601.00	5.40								
						626.00	2.80								
						651.00	.70								
						702.00	-1.00								

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 6

DATE	630806	DATE	630820	DATE	630906	DATE	630926	DATE	631010	DATE	631025	DATE	631115	DATE	631227
SRVY	26	SRVY	27	SRVY	28	SRVY	29	SRVY	30	SRVY	31	SRVY	32	SRVY	33
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
550.00	8.00	325.00	10.10	425.00	12.30	339.00	18.20	353.00	16.80	338.00	14.40	352.00	16.90	-201.00	4.70
576.00	8.40	338.00	13.80	452.00	10.90	352.00	17.40	378.00	13.40	353.00	18.20	378.00	12.70	-175.00	4.50
621.00	1.80	350.00	15.60	476.00	9.20	377.00	13.70	403.00	13.40	378.00	14.00	404.00	13.20	-125.00	4.50
652.00	-1.90	377.00	14.30	503.00	7.90	403.00	13.70	431.00	11.60	404.00	13.40	429.00	10.90	-74.00	3.90
		400.00	13.30	528.00	7.30	454.00	10.30	478.00	7.50	429.00	11.70	455.00	9.40	-51.00	4.20
		411.00	14.10	552.00	8.00	480.00	8.70	506.00	7.20	454.00	10.50	481.00	8.20	-37.00	3.90
		426.00	12.20	575.00	5.90	504.00	6.90	530.00	7.80	504.00	7.00	505.00	7.80	-24.00	3.90
		476.00	6.90	602.00	3.00	532.00	7.40	555.00	4.40	530.00	7.70	530.00	4.20	1.00	4.40
		501.00	7.80	627.00	.80	555.00	7.10	605.00	-1.00	555.00	8.30	555.00	5.00	51.00	5.70
		525.00	7.30			605.00	1.90			580.00	5.80	579.00	.50	152.00	6.00
		552.00	8.00							606.00	2.50	606.00	-1.00	252.00	5.00
		577.00	8.20							631.00	-1.00			290.00	6.40
		602.00	6.20											325.00	13.20
		652.00	1.30											340.00	15.70
		675.00	-.20											365.00	17.70
		702.00	-1.00											383.00	13.20
														400.00	13.40
														425.00	11.60
														450.00	10.20
														475.00	8.40
														500.00	8.00
														525.00	7.50
														550.00	6.50
														575.00	4.50
														600.00	3.00
														625.00	2.50
														650.00	.50
														675.00	-1.50
														690.00	-2.30

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 6

DATE	640115	DATE	640212	DATE	640310	DATE	640407	DATE	640525	DATE	640623	DATE	640824	DATE	640924
SRVY	34	SRVY	35	SRVY	36	SRVY	37	SRVY	38	SRVY	39	SRVY	40	SRVY	41
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
-204.00	4.80	383.00	13.50	290.00	6.30	304.00	7.50	310.00	6.90	350.00	16.20	353.00	16.50	325.00	12.80
-178.00	4.50	401.00	12.90	309.00	7.70	350.00	16.10	349.00	16.40	365.00	17.20	384.00	16.20	344.00	15.70
-125.00	4.50	477.00	6.60	337.00	16.30	365.00	17.20	376.00	16.10	383.00	15.90	402.00	13.50	366.00	16.20
-79.00	4.00	502.00	6.60	376.00	15.90	387.00	16.20	401.00	13.00	402.00	13.40	428.00	11.60	401.00	13.20
-53.00	4.30	528.00	5.60	396.00	13.00	401.00	13.10	426.00	11.50	454.00	9.30	454.00	9.40	429.00	11.50
-27.00	4.00	553.00	3.60	427.00	11.60	426.00	12.10	451.00	9.60	477.00	8.60	477.00	8.20	454.00	9.60
-3.00	4.80	603.00	1.50	477.00	7.70	477.00	8.10	477.00	8.10	502.00	9.40	504.00	9.20	478.00	9.20
48.00	5.80	654.00	-1.10	527.00	7.80	502.00	8.40	502.00	8.10	528.00	8.90	529.00	9.10	504.00	9.70
189.00	6.10			583.00	5.40	528.00	8.50	528.00	8.90	553.00	4.80	555.00	4.90	531.00	9.40
250.00	5.10			603.00	2.40	553.00	8.70	553.00	8.80	603.00	-2.60	595.00	.70	554.00	6.50
290.00	6.30			639.00	1.00	578.00	6.90	575.00	7.00					605.00	1.70
380.00	15.60			655.00	.20	604.00	3.10	583.00	3.00					641.00	0.00
366.00	17.30			680.00	-1.50	654.00	-1.70	603.00	1.50						
383.00	13.50					664.00	-3.10	628.00	-.80						
402.00	13.10							653.00	-2.40						
428.00	11.70														
452.00	10.10														
503.00	5.90														
529.00	4.90														
553.00	4.10														
578.00	2.10														
655.00	.60														
705.00	-2.00														

PROFILE 6

DATE	641201	DATE	650119	DATE	650427	DATE	650907	DATE	651027	DATE	651222	DATE	660125	DATE	660321
SRVY	42	SRVY	43	SRVY	44	SRVY	45	SRVY	46	SRVY	47	SRVY	48	SRVY	49
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
325.00	12.10	452.00	9.90	381.00	16.20	404.00	15.40	379.00	16.20	401.00	16.20	310.00	9.30	436.00	11.20
347.00	16.00	491.00	9.70	409.00	15.20	427.00	12.10	400.00	15.10	411.00	16.00	347.00	15.60	476.00	6.20
384.00	16.10	527.00	6.90	426.00	11.50	452.00	9.50	423.00	12.30	423.00	12.30	375.00	16.50	500.00	7.50
405.00	13.70	552.00	5.30	451.00	9.50	502.00	8.30	451.00	9.70	451.00	9.10	409.00	15.80	526.00	6.60
428.00	11.60	592.00	5.20	501.00	8.40	552.00	7.70	502.00	8.40	501.00	8.20	430.00	12.10	551.00	7.30
452.00	9.50	603.00	4.70	552.00	7.50	615.00	7.70	552.00	7.80	551.00	8.30	451.00	10.20	576.00	7.50
479.00	8.90	628.00	1.90	578.00	7.30	628.00	5.80	587.00	9.00	594.00	8.10	502.00	7.50	602.00	4.00
504.00	9.30	653.00	.50	603.00	6.10	654.00	2.00	617.00	8.10	612.00	5.10	551.00	6.00	627.00	1.40
529.00	9.30	698.00	-.90	626.00	3.60	678.00	-.80	628.00	7.00	628.00	2.80	601.00	2.50	651.00	-2.00
554.00	7.20	703.00	-2.80	653.00	1.70	699.00	-1.40	678.00	0.00	652.00	-1.70	652.00	.50	662.00	-2.70
605.00	3.30			678.00	-1.00			703.00	-1.50	677.00	-1.50				
631.00	1.30			703.00	-1.70					703.00	-.90				
				729.00	-2.00					728.00	-.60				
				754.00	-3.70					754.00	-1.30				
										777.00	-1.40				
										803.00	-2.70				

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 6

DATE	660922	DATE	670114	DATE	670505	DATE	670920	DATE	671218	DATE	680117	DATE	680227	DATE	680327
SRVY	50	SRVY	51	SRVY	52	SRVY	54	SRVY	55	SRVY	56	SRVY	57	SRVY	58
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
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400.00	16.20	365.00	16.90	365.00	16.50	365.00	16.00	365.00	15.50	364.00	16.10	340.00	15.50	365.00	15.90
427.00	12.10	403.00	16.60	400.00	16.80	405.00	16.70	410.00	16.20	404.00	16.60	384.00	15.50	403.00	[illegible]
451.00	9.60	444.00	10.50	440.00	10.70	444.00	11.10	431.00	14.80	450.00	10.70	405.00	17.00	455.00	10.00
501.00	7.90	476.00	6.50	451.00	9.70	453.00	10.00	465.00	11.30	500.00	9.20	450.00	11.00	500.00	8.90
551.00	8.70	526.00	8.40	501.00	9.20	500.00	9.60	501.00	9.70	531.00	7.10	500.00	9.20	550.00	7.70
576.00	5.90	592.00	7.10	551.00	6.30	526.00	8.50	551.00	8.30	550.00	6.30	550.00	5.80	586.00	5.90
601.00	4.00	618.00	4.20	586.00	4.60	551.00	7.10	601.00	5.10	581.00	5.50	600.00	1.30	650.00	-.60
651.00	1.80	651.00	0.00	651.00	3.70	577.00	6.50	631.00	4.60	600.00	4.50	650.00	-.90	700.00	-4.10
677.00	-.20			702.00	-.90	601.00	4.90	702.00	-1.30	625.00	1.50				
				727.00	-2.50	651.00	.20	727.00	-1.80	651.00	.40				
				752.00	-4.00	677.00	-.10			701.00	-2.60				

PROFILE 6

DATE	681009	DATE	681023	DATE	681113	DATE	681218	DATE	690115	DATE	690213	DATE	690304	DATE	690526
SRVY	59	SRVY	60	SRVY	61	SRVY	62	SRVY	63	SRVY	64	SRVY	65	SRVY	66
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
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365.00	16.20	365.00	16.10	365.00	16.10	365.00	15.90	365.00	15.80	365.00	15.80	365.00	15.70	365.00	15.70
385.00	15.80	385.00	15.90	382.00	16.90	382.00	16.70	400.00	15.70	400.00	15.90	378.00	16.70	380.00	16.20
400.00	16.00	400.00	15.60	395.00	14.50	395.00	15.70	425.00	14.60	425.00	14.50	404.00	16.30	404.00	[illegible]
415.00	14.60	415.00	14.40	420.00	14.30	420.00	14.00	440.00	13.20	440.00	13.90	440.00	14.00	415.00	15.40
442.00	11.40	440.00	11.50	440.00	12.00	440.00	13.00	455.00	10.80	465.00	10.60	450.00	12.40	440.00	13.60
450.00	10.80	450.00	10.70	500.00	7.50	455.00	10.90	475.00	9.00	500.00	8.80	475.00	11.50	455.00	11.40
500.00	8.90	500.00	9.00	550.00	5.30	500.00	7.40	500.00	8.20	525.00	9.00	500.00	10.40	500.00	10.20
550.00	9.00	525.00	8.70	600.00	3.80	550.00	6.90	525.00	8.20	550.00	8.50	545.00	7.30	562.00	6.10
580.00	9.00	550.00	8.80	655.00	3.40	600.00	5.70	550.00	7.70	575.00	5.80	600.00	2.00	568.00	7.40
583.00	6.40	577.00	9.70	680.00	-.20	625.00	3.30	575.00	7.60	600.00	3.80	650.00	-2.10	600.00	5.40
600.00	4.40	586.00	8.00			650.00	.80	590.00	7.50	625.00	1.00			650.00	-.50
625.00	2.50	588.00	6.20			675.00	-1.00	625.00	3.70	650.00	-.80			700.00	-1.40
650.00	1.00	600.00	4.80			700.00	-1.80	650.00	1.00	675.00	-3.30			725.00	-1.40
675.00	-.50	625.00	3.30			725.00	-2.30	675.00	-1.40					775.00	-2.40
700.00	-1.50	650.00	1.70											825.00	-2.90
		675.00	-1.10												
		700.00	-1.40												

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 6

DATE	690924	DATE	691020	DATE	691118	DATE	691218	DATE	700120	DATE	700218	DATE	700319	DATE	700521
SRVY	67	SRVY	68	SRVY	69	SRVY	70	SRVY	71	SRVY	72	SRVY	73	SRVY	74
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
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365.00	15.90	365.00	16.00	365.00	15.90	365.00	15.80	365.00	15.30	365.00	15.30	365.00	15.40	384.00	17.20
400.00	15.90	380.00	17.00	381.00	16.90	381.00	17.20	381.00	16.70	400.00	16.10	381.00	17.10	420.00	15.80
420.00	15.70	405.00	16.50	420.00	15.80	405.00	16.60	420.00	15.80	425.00	15.50	429.00	14.50	459.00	12.00
450.00	12.60	420.00	15.60	450.00	12.80	420.00	16.20	442.00	14.10	445.00	14.40	445.00	14.40	500.00	9.90
470.00	11.30	445.00	13.30	475.00	11.20	440.00	13.80	470.00	11.30	460.00	12.20	463.00	11.90	550.00	8.20
500.00	10.10	475.00	11.20	500.00	10.60	462.00	11.60	500.00	10.20	500.00	10.10	500.00	10.00	580.00	6.10
519.00	9.30	500.00	10.00	525.00	9.00	475.00	11.20	550.00	7.00	550.00	7.80	550.00	8.30	600.00	5.80
548.00	9.50	525.00	9.50	550.00	7.10	500.00	10.40	600.00	3.70	600.00	5.60	600.00	5.70	658.00	-2.00
575.00	6.10	545.00	9.70	575.00	6.30	516.00	9.90	650.00	-.60	625.00	3.70	615.00	5.20	700.00	-2.50
600.00	3.60	550.00	9.50	595.00	6.20	539.00	7.50	682.00	-3.20	650.00	1.20	650.00	.90	708.00	-1.50
625.00	2.00	575.00	6.80	625.00	2.00	569.00	6.70			675.00	-1.30	656.00	-.30	733.00	-1.40
650.00	.70	585.00	5.60	650.00	2.00	590.00	5.60					700.00	-.30	758.00	-2.50
675.00	-.70	600.00	2.50	675.00	-.50	613.00	5.60					750.00	-1.00		
700.00	-2.20	625.00	-.90	700.00	-2.50	625.00	3.30					785.00	-1.90		
		650.00	-1.30	725.00	-2.50	650.00	.70								
		675.00	-.40			675.00	-1.40								
		700.00	-.50			700.00	-2.20								
		725.00	-1.00			739.00	-3.00								
		750.00	-1.40			772.00	-1.30								
		775.00	-1.90			800.00	-2.10								
		800.00	-2.40			850.00	-3.80								

PROFILE 6

DATE	700828	DATE	701012	DATE	701207	DATE	701218	DATE	710112	DATE	710208	DATE	710308	DATE	710404
SRVY	75	SRVY	76	SRVY	77	SRVY	78	SRVY	79	SRVY	80	SRVY	81	SRVY	82
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
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365.00	15.50	365.00	15.60	365.00	15.10	365.00	15.30	365.00	15.30	365.00	15.40	365.00	15.20	365.00	15.40
381.00	17.10	382.00	16.90	381.00	16.60	375.00	16.30	400.00	16.60	375.00	16.00	376.00	15.80	400.00	17.90
392.00	17.00	400.00	16.70	405.00	16.50	383.00	17.00	425.00	17.80	381.00	17.00	383.00	16.80	425.00	17.20
400.00	16.90	427.00	15.50	425.00	16.40	400.00	17.00	432.00	16.90	400.00	16.80	400.00	16.00	445.00	14.40
441.00	13.90	442.00	13.70	440.00	14.90	425.00	17.00	444.00	13.50	425.00	17.00	411.00	16.60	465.00	11.60
500.00	9.50	450.00	13.20	450.00	12.70	438.00	16.20	450.00	12.80	437.00	16.30	422.00	17.20	500.00	9.70
550.00	8.50	500.00	9.60	475.00	10.50	450.00	12.50	500.00	9.60	447.00	13.90	437.00	16.30	540.00	6.80
600.00	6.70	550.00	6.30	500.00	9.60	469.00	11.20	540.00	6.80	475.00	10.70	450.00	13.80	590.00	5.10
650.00	4.30	600.00	7.60	550.00	7.80	475.00	10.80	584.00	7.70	493.00	9.70	475.00	10.60	625.00	1.10
700.00	.90	610.00	7.80	574.00	7.40	500.00	9.70	600.00	5.60	500.00	9.00	500.00	9.10	653.00	-2.40
740.00	-.50	650.00	4.10	600.00	5.90	550.00	5.80	650.00	-.40	555.00	8.2	503.00	7.10		
782.00	-1.00	700.00	1.60	625.00	1.90	583.00	4.40	700.00	-2.80	560.00	7.90	550.00	6.60		
758.00	-.50	750.00	-.40	633.00	1.40	600.00	4.50	725.00	-3.40	600.00	3.60	562.00	6.21		
800.00	-1.40	800.00	-2.40	638.00	.10	608.00	4.50			625.00	1.60	587.00	5.50		
834.00	-3.30	825.00	-3.20	650.00	-1.10	650.00	1.00			650.00	-.30	600.00	4.50		
				675.00	-1.90	700.00	-1.90			664.00	-.80	625.00	2.90		
						740.00	-3.60					650.00	-1.00		
												662.00	-2.50		

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 6

DATE	710624	DATE	710817	DATE	711007	DATE	711214	DATE	720112	DATE	720215	DATE	720223	DATE	720313
SRVY	83	SRVY	85	SRVY	86	SRVY	87	SRVY	88	SRVY	89	SRVY	90	SRVY	91
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
365.00	15.10	365.00	15.80	365.00	15.60	365.00	15.90	365.00	15.70	365.00	15.90	365.00	15.80	365.00	15.70
375.00	15.70	400.00	17.10	400.00	18.40	382.00	17.30	380.00	17.10	404.00	17.70	381.00	17.20	383.00	17.20
385.00	16.70	426.00	18.40	419.00	18.80	400.00	17.70	404.00	18.20	438.00	16.70	400.00	18.70	406.00	18.60
405.00	17.60	443.00	14.90	450.00	13.10	425.00	17.70	434.00	16.30	471.00	11.00	430.00	17.50	427.00	16.40
420.00	18.60	486.00	10.10	500.00	9.20	439.00	16.30	450.00	12.40	500.00	9.60	445.00	16.90	442.00	16.70
440.00	14.80	500.00	9.40	550.00	10.00	444.00	13.90	500.00	9.20	550.00	8.20	465.00	12.10	467.00	11.70
450.00	13.30	550.00	9.30	562.00	9.90	450.00	12.60	550.00	9.40	582.00	7.00	500.00	8.70	500.00	8.80
500.00	9.20	573.00	9.00	600.00	6.10	500.00	9.30	575.00	8.00	600.00	5.00	550.00	6.70	550.00	8.10
550.00	9.20	600.00	5.40	650.00	-.60	550.00	9.60	600.00	4.70	625.00	2.50	600.00	4.50	563.00	8.10
575.00	5.80	625.00	2.00	700.00	-1.90	566.00	7.80	650.00	-.80	650.00	-.60	625.00	2.50	600.00	4.20
600.00	2.30	650.00	-.60			600.00	5.20	675.00	-3.00	675.00	-2.30	650.00	-1.50	625.00	1.90
650.00	-1.00	700.00	-2.00			650.00	0.00					670.00	-3.50	650.00	-1.20
		725.00	-2.50			675.00	-2.60							670.00	-3.30

PROFILE 6

DATE	720411	DATE	720823	DATE	721017	DATE	721205	DATE	730103	DATE	730213	DATE	730315	DATE	730329
SRVY	92	SRVY	93	SRVY	94	SRVY	95	SRVY	96	SRVY	97	SRVY	98	SRVY	99
TIME	1200	TIME	1200	TIME	900	TIME	1000	TIME	1000	TIME	1000	TIME	1200	TIME	[illegible]
365.00	15.60	365.00	15.60	365.00	15.90	365.00	15.80	365.00	15.90	365.00	16.00	365.00	15.90	365.00	15.60
381.00	17.20	400.00	18.30	380.00	17.50	383.00	16.30	380.00	17.10	381.00	17.30	380.00	17.20	400.00	17.70
403.00	18.30	425.00	17.60	400.00	18.40	400.00	18.70	400.00	18.40	400.00	18.10	400.00	18.40	423.00	18.10
427.00	18.40	454.00	12.10	420.00	18.00	427.00	17.60	432.00	17.60	422.00	19.00	420.00	18.90	439.00	16.60
437.00	16.60	500.00	10.00	444.00	13.70	464.00	11.50	450.00	12.80	454.00	12.20	438.00	15.80	450.00	13.50
461.00	11.80	550.00	9.40	450.00	12.60	500.00	10.40	500.00	9.70	500.00	10.40	447.00	12.80	500.00	9.80
500.00	10.20	567.00	6.60	500.00	10.50	531.00	10.00	550.00	7.60	550.00	8.30	500.00	9.90	550.00	6.50
518.00	10.20	600.00	6.20	550.00	8.10	550.00	8.20	575.00	5.50	600.00	2.40	550.00	9.50	600.00	[illegible]
523.00	8.20	650.00	.20	588.00	6.70	575.00	4.70	600.00	3.30	650.00	-3.60	575.00	5.00	625.00	-1.40
550.00	5.30	700.00	-2.10	600.00	4.40	600.00	2.60	625.00	.40			600.00	.50		
600.00	-.70			650.00	-1.00	625.00	.60	650.00	-2.70			616.00	-1.20		
620.00	-3.20			700.00	-1.60	650.00	-2.30								

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 6

DATE	730402	DATE	730417	DATE	730612
SRVY	100	SRVY	101	SRVY	103
TIME	1200	TIME	1100	TIME	1000
365.00	15.80	365.00	15.70	365.00	16.00
383.00	17.00	380.00	17.00	380.00	16.90
400.00	17.70	400.00	17.80	400.00	17.90
420.00	18.70	420.00	18.70	424.00	18.20
436.00	17.00	435.00	16.90	439.00	15.40
450.00	13.60	450.00	13.20	500.00	10.10
500.00	10.20	500.00	10.00	525.00	9.50
525.00	9.50	533.00	9.40	550.00	8.60
550.00	9.00	550.00	7.90	575.00	5.40
575.00	5.40	566.00	6.60	600.00	2.20
600.00	1.90	600.00	1.60	625.00	-.70
625.00	-1.60	625.00	-.50	647.00	-2.60
		650.00	-1.40		
		675.00	-1.90		

PROFILE 7

DATE	620926	DATE	620928	DATE	621011	DATE	621023	DATE	621029	DATE	621108	DATE	621210	DATE	630115
SRVY	1	SRVY	2	SRVY	4	SRVY	5	SRVY	6	SRVY	7	SRVY	8	SRVY	9
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
312.00	7.70	308.00	10.00	356.00	12.70	355.00	12.60	412.00	14.00	413.00	13.40	305.00	15.30	0.00	6.90
325.00	10.00	330.00	9.80	366.00	13.30	370.00	13.20	463.00	11.90	445.00	12.10	356.00	13.50	100.00	5.00
343.00	13.90	335.00	13.70	391.00	13.50	393.00	13.50	489.00	8.50	462.00	11.80	382.00	12.90	200.00	6.10
349.00	12.80	337.00	12.80	413.00	14.00	411.00	13.90	523.00	7.90	493.00	6.70	403.00	13.70	301.00	8.10
360.00	12.30	345.00	12.60	441.00	12.70	438.00	12.70	559.00	5.60	518.00	6.00	451.00	11.90	316.00	8.00
370.00	15.10	352.00	15.40	461.00	12.20	462.00	12.10	590.00	3.10	551.00	5.80	458.00	10.20	319.00	11.00
452.00	12.60	366.00	13.20	487.00	8.60	486.00	8.60	629.00	-1.40	593.00	1.50	486.00	9.10	322.00	11.70
462.00	9.10	394.00	14.30	516.00	7.70	520.00	8.20	672.00	-2.00	615.00	-1.70	534.00	7.00	346.00	16.00
485.00	7.70	426.00	12.30	527.00	6.60	544.00	6.10	723.00	-2.80			554.00	6.60	349.00	16.60
512.00	6.70	443.00	11.80	558.00	4.40	579.00	3.40					592.00	4.00	358.00	15.40
540.00	5.30	472.00	8.40	584.00	2.40	603.00	-.40					632.00	0.00	365.00	15.30
576.00	4.80	484.00	7.60	615.00	.20	629.00	-1.70					688.00	-3.50	375.00	12.80
608.00	2.00	510.00	6.20	657.00	-1.90							763.00	-3.20	400.00	13.30
635.00	.00	535.00	3.60									845.00	-3.20	406.00	13.60
665.00	-1.20	563.00	2.50											451.00	11.40
681.00	-1.70	592.00	1.40											469.00	9.50
		617.00	.40											501.00	6.80
		637.00	-.60											521.00	8.70
														551.00	6.20
														601.00	-.50

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 7

DATE	630121	DATE	630128	DATE	630204	DATE	630212	DATE	630220	DATE	630226	DATE	630304	DATE	630311
SRVY	10	SRVY	11	SRVY	12	SRVY	13	SRVY	14	SRVY	15	SRVY	16	SRVY	17
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
----	------	----	------	----	------	----	------	----	------	----	------	----	------	----	------
553.00	5.90	400.00	13.30	475.00	8.50	348.00	16.50	475.00	8.30	320.00	11.00	460.00	9.50	475.00	6.20
601.00	.70	451.00	11.40	525.00	7.90	357.00	13.20	501.00	7.60	351.00	15.50	475.00	8.20	526.00	7.10
636.00	-1.40	460.00	9.50	576.00	4.30	371.00	12.40	525.00	7.40	359.00	15.20	502.00	7.80	601.00	4.00
		474.00	8.60	601.00	3.00	401.00	13.00	552.00	6.40	368.00	12.60	526.00	7.30	627.00	3.30
		526.00	7.90	650.00	0.00	426.00	12.20	577.00	4.70	401.00	13.00	550.00	6.40	651.00	1.90
		564.00	4.80	676.00	-.50	451.00	11.00	629.00	1.90	450.00	11.00	575.00	5.50	677.00	.10
		601.00	2.20			461.00	9.50	651.00	1.00	460.00	9.40	626.00	1.90	701.00	-.60
		651.00	-.20			476.00	8.40	700.00	-1.80	476.00	8.40	651.00	0.00		
		676.00	-1.00			500.00	7.90			502.00	7.70	676.00	-1.20		
						526.00	7.60			526.00	7.40				
						551.00	6.50			552.00	6.50				
						577.00	4.40			574.00	4.80				
						601.00	2.30			602.00	4.40				
						626.00	.70			612.00	4.50				
						651.00	-.40			627.00	3.10				
						676.00	-1.00			651.00	1.20				
										679.00	.10				
										702.00	-1.00				
										727.00	-2.40				

PROFILE 7

DATE	630319	DATE	630326	DATE	630404	DATE	630528	DATE	630613	DATE	630625	DATE	630711	DATE	630723
SRVY	18	SRVY	19	SRVY	20	SRVY	21	SRVY	22	SRVY	23	SRVY	24	SRVY	25
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
----	------	----	------	----	------	----	------	----	------	----	------	----	------	----	------
551.00	6.40	526.00	7.20	400.00	13.00	0.00	5.50	502.00	7.60	459.00	11.00	501.00	7.70	475.00	6.30
575.00	5.30	550.00	6.50	451.00	11.00	150.00	6.00	525.00	6.30	475.00	8.00	526.00	6.40	499.00	7.40
602.00	5.00	575.00	6.10	476.00	8.40	200.00	7.50	551.00	5.60	502.00	7.70	576.00	.40	526.00	6.10
650.00	2.80	586.00	6.10	501.00	7.50	250.00	7.40	601.00	0.00	526.00	7.00	601.00	-.90	551.00	4.10
675.00	.30	601.00	3.80	526.00	7.30	300.00	8.20	651.00	-1.20	550.00	5.40			576.00	1.70
700.00	-.60	627.00	1.90	551.00	6.70	344.00	15.50			601.00	-.90			602.00	1.00
726.00	-2.20	676.00	-1.10	576.00	6.40	353.00	15.00							651.00	-1.70
				586.00	6.30	370.00	13.00								
				602.00	4.70	400.00	12.90								
				626.00	1.70	426.00	11.50								
				652.00	0.00	451.00	11.20								
				676.00	-1.00	476.00	8.20								
						520.00	6.90								
						546.00	6.90								
						552.00	5.70								
						602.00	1.40								
						677.00	-1.40								

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 7

DATE	630806	DATE	630820	DATE	630906	DATE	630926	DATE	631010	DATE	631025	DATE	631115	DATE	631227
SRVY	26	SRVY	27	SRVY	28	SRVY	29	SRVY	30	SRVY	31	SRVY	32	SRVY	33
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
476.00	8.30	476.00	8.10	501.00	8.10	453.00	11.00	453.00	11.00	454.00	11.00	454.00	11.00	322.00	11.00
500.00	8.00	526.00	7.80	526.00	7.00	479.00	7.60	479.00	7.00	479.00	7.50	479.00	8.60	353.00	16.00
526.00	8.10	573.00	1.80	551.00	4.00	504.00	5.60	505.00	6.50	500.00	7.20	504.00	8.40	373.00	14.60
551.00	6.70	602.00	.50	576.00	2.50	530.00	5.90	529.00	7.00	529.00	7.90	529.00	8.80	390.00	13.90
601.00	.70	651.00	-.80	602.00	1.60	555.00	5.50	534.00	5.80	556.00	5.80	555.00	7.80	400.00	12.70
626.00	-.90			627.00	.30	581.00	3.50	555.00	3.20	581.00	2.90	580.00	3.90	450.00	11.00
						605.00	.90	580.00	0.00	619.00	-1.30	605.00	1.10	480.00	8.70
						631.00	-1.50	606.00	-1.60			631.00	-.10	504.00	7.90
												646.00	-.60	530.00	7.00
														580.00	3.30
														630.00	1.50
														656.00	-2.40

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 7

DATE	640115	DATE	640212	DATE	640310	DATE	640407	DATE	640525	DATE	640623	DATE	640829	DATE	640924
SRVY	34	SRVY	35	SRVY	36	SRVY	37	SRVY	38	SRVY	39	SRVY	40	SRVY	41
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
-255.00	5.60	400.00	13.60	313.00	9.10	325.00	12.40	312.00	8.90	311.00	9.10	325.00	17.60	350.00	15.80
-229.00	5.90	428.00	11.50	326.00	17.70	351.00	16.50	324.00	17.10	327.00	17.50	375.00	16.40	375.00	16.10
-204.00	5.60	452.00	8.30	350.00	16.20	376.00	15.80	350.00	16.60	351.00	16.50	427.00	11.70	395.00	15.60
-177.00	5.60	478.00	7.20	377.00	15.80	401.00	14.20	376.00	16.50	376.00	16.30	451.00	9.10	425.00	12.00
-121.00	5.40	502.00	6.80	402.00	13.70	426.00	11.40	401.00	14.70	401.00	14.10	476.00	7.90	451.00	9.40
-84.00	5.10	527.00	4.20	428.00	11.50	452.00	8.20	425.00	12.10	426.00	11.40	501.00	7.60	482.00	6.30
-68.00	5.60	553.00	2.80	452.00	8.40	478.00	7.10	476.00	7.00	450.00	8.10	517.00	8.80	502.00	7.20
-27.00	4.70	605.00	1.30	478.00	7.20	502.00	7.10	552.00	8.40	476.00	7.40	526.00	5.80	540.00	4.50
-2.00	5.50	654.00	-.70	503.00	6.80	553.00	7.90	575.00	6.90	501.00	8.20	552.00	1.60	552.00	2.40
99.00	5.70			528.00	6.20	578.00	6.10	577.00	5.10	527.00	8.50			580.00	.10
149.00	5.90			553.00	6.20	603.00	2.40	602.00	2.10	552.00	4.30				
199.00	7.40			577.00	5.70	629.00	.50	628.00	.60	603.00	-1.90				
249.00	7.50			598.00	-5.70	653.00	-1.80	654.00	-2.40						
300.00	8.20			628.00	2.20										
313.00	9.10			675.00	.50										
325.00	13.00			704.00	.20										
350.00	16.20														
371.00	15.30														
391.00	16.10														
401.00	13.60														
428.00	11.50														
437.00	11.20														
453.00	8.40														
502.00	4.10														
527.00	3.10														
574.00	2.40														
629.00	1.40														
655.00	.40														
681.00	-.50														
688.00	-1.90														

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 7

DATE	641201	DATE	650119	DATE	650427	DATE	650907	DATE	651027	DATE	651222	DATE	660125	DATE	660321
SRVY	42	SRVY	43	SRVY	44	SRVY	45	SRVY	46	SRVY	47	SRVY	48	SRVY	49
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
312.00	9.00	394.00	15.40	376.00	16.40	377.00	16.40	377.00	16.30	385.00	15.00	302.00	8.60	400.00	16.60
350.00	17.10	439.00	11.70	396.00	15.20	391.00	15.10	401.00	13.00	401.00	13.10	312.00	12.40	425.00	6.90
376.00	16.60	477.00	7.00	439.00	11.00	426.00	11.50	440.00	9.50	426.00	11.60	372.00	15.00	465.00	6.30
396.00	15.30	502.00	5.90	451.00	9.80	459.00	8.60	451.00	8.80	451.00	9.30	385.00	15.10	501.00	5.80
425.00	11.50	547.00	6.00	478.00	7.80	493.00	8.70	471.00	9.00	466.00	8.70	425.00	9.60	550.00	1.60
450.00	9.50	577.00	3.00	528.00	2.10	527.00	2.80	502.00	6.20	476.00	6.90	451.00	7.80	577.00	.20
476.00	8.60	628.00	.30	603.00	-.80	552.00	.10	527.00	4.20	512.00	6.40	501.00	4.90	591.00	-2.20
501.00	5.90	654.00	-1.50	628.00	-2.50	578.00	-1.70	552.00	1.10	553.00	2.50	527.00	2.40		
526.00	4.00			653.00	-3.10			602.00	-.70	578.00	.30	576.00	.40		
551.00	2.60							626.00	-1.90	602.00	-.30				
602.00	.50									628.00	-1.80				
653.00	-1.40									643.00	-2.40				

PROFILE 7

DATE	660922	DATE	670116	DATE	670505	DATE	670920	DATE	671218	DATE	680117	DATE	680227	DATE	680327
SRVY	50	SRVY	51	SRVY	52	SRVY	54	SRVY	55	SRVY	56	SRVY	57	SRVY	58
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
408.00	14.50	393.00	15.70	380.00	15.80	340.00	16.90	359.00	16.40	395.00	16.10	358.00	16.00	358.00	15.60
425.00	14.90	407.00	14.90	382.00	15.40	380.00	16.00	382.00	16.20	419.00	14.60	370.00	16.40	375.00	16.30
451.00	12.40	426.00	14.50	400.00	14.60	401.00	15.30	410.00	14.80	445.00	14.10	395.00	15.80	428.00	14.40
476.00	12.00	452.00	12.20	426.00	14.30	425.00	15.10	432.00	14.00	481.00	11.50	420.00	14.50	449.00	13.00
501.00	10.70	472.00	11.50	450.00	12.10	450.00	13.10	460.00	11.40	499.00	8.50	439.00	10.20	475.00	10.40
511.00	7.90	486.00	10.70	471.00	11.40	500.00	8.30	507.00	7.70	550.00	6.10	476.00	10.10	552.00	6.50
551.00	4.20	489.00	8.20	501.00	8.70	526.00	7.90	552.00	5.70	599.00	3.00	500.00	8.80	599.00	2.10
602.00	2.40	502.00	7.70	531.00	5.90	551.00	7.20	592.00	4.10	625.00	.90	525.00	8.50	650.00	-2.60
627.00	0.00	527.00	7.30	550.00	5.30	576.00	5.80	610.00	3.10	650.00	-1.30	550.00	7.00		
		544.00	6.70	576.00	2.90	601.00	3.10	661.00	-2.00	685.00	-1.90	576.00	4.50		
		572.00	4.20	601.00	1.10	626.00	.10					600.00	2.40		
		602.00	.90	651.00	-3.20	652.00	-1.40					624.00	.90		
		621.00	0.00									650.00	-1.80		

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 7

DATE	681009	DATE	681023	DATE	681113	DATE	681218	DATE	690115	DATE	690213	DATE	690304	DATE	690528
SRVY	59	SRVY	60	SRVY	61	SRVY	62	SRVY	63	SRVY	64	SRVY	65	SRVY	66
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
370.00	16.60	370.00	16.60	360.00	16.40	360.00	16.60	358.00	16.50	358.00	16.50	358.00	16.30	358.00	16.40
395.00	16.40	395.00	16.00	395.00	16.50	395.00	16.00	375.00	16.50	375.00	16.60	395.00	16.50	394.00	16.90
420.00	14.00	420.00	14.50	420.00	14.70	420.00	14.30	400.00	15.40	400.00	15.50	420.00	15.00	420.00	15.00
440.00	13.40	440.00	14.00	440.00	14.70	440.00	13.80	425.00	14.60	425.00	14.70	437.00	14.20	437.00	14.00
470.00	11.00	470.00	10.90	445.00	10.70	450.00	9.80	437.00	14.10	438.00	14.00	444.00	11.60	446.00	11.50
490.00	9.00	490.00	9.00	500.00	6.00	500.00	6.60	450.00	9.70	455.00	9.50	475.00	9.10	500.00	8.80
500.00	8.60	500.00	8.40	550.00	4.10	550.00	4.90	500.00	7.20	500.00	7.10	500.00	7.80	550.00	8.30
550.00	8.60	550.00	8.30	600.00	3.50	600.00	0.00	525.00	6.40	550.00	7.00	520.00	6.80	575.00	7.00
575.00	4.40	552.00	6.30	630.00	0.00	625.00	-1.50	550.00	4.40	575.00	6.60	550.00	3.70	600.00	5.60
600.00	2.40	575.00	4.50			650.00	-2.30	575.00	2.50	600.00	4.80	600.00	-.80	646.00	-2.50
625.00	1.20	600.00	3.00					600.00	.60	625.00	2.90	625.00	-2.60	700.00	-1.10
650.00	.50	625.00	1.60					625.00	-.90	650.00	1.30			750.00	-1.30
675.00	-.30	650.00	.30					650.00	-.90	675.00	.30			800.00	-1.40
700.00	-1.60	675.00	-.20							700.00	-.60				
		700.00	-1.20							725.00	-1.70				

PROFILE 7

DATE	690924	DATE	691020	DATE	691118	DATE	691218	DATE	700120	DATE	700216	DATE	700319	DATE	700521
SRVY	67	SRVY	68	SRVY	69	SRVY	70	SRVY	71	SRVY	72	SRVY	73	SRVY	74
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
358.00	16.60	358.00	16.40	358.00	16.60	358.00	16.50	358.00	16.70	358.00	16.70	358.00	17.60	395.00	16.70
394.00	16.90	394.00	16.90	394.00	17.00	394.00	17.10	395.00	17.40	392.00	17.20	400.00	16.40	420.00	15.00
434.00	14.00	420.00	14.90	420.00	14.80	423.00	15.20	412.00	15.60	410.00	15.60	422.00	14.60	453.00	12.00
448.00	11.00	435.00	14.30	450.00	11.20	428.00	15.00	425.00	16.20	432.00	15.20	450.00	11.60	458.00	10.60
475.00	9.60	449.00	11.10	475.00	9.80	450.00	11.50	500.00	12.30	452.00	13.40	476.00	9.50	465.00	8.60
507.00	9.70	475.00	9.70	500.00	8.10	475.00	9.90	530.00	9.30	465.00	11.10	500.00	8.50	527.00	8.70
525.00	6.90	500.00	9.60	525.00	7.90	488.00	8.90	550.00	7.90	500.00	8.80	552.00	6.60	558.00	3.50
550.00	4.00	525.00	7.50	550.00	6.70	500.00	8.60	589.00	6.40	550.00	6.50	600.00	1.70	598.00	-1.60
575.00	2.00	550.00	6.00	575.00	6.00	519.00	6.30	612.00	6.80	570.00	5.50	650.00	.20	639.00	-2.60
600.00	.50	575.00	3.60	600.00	5.00	562.00	4.50	650.00	3.20	600.00	2.30	700.00	-1.10		
625.00	-1.20	600.00	2.00	625.00	2.10	592.00	5.00	700.00	-.90	625.00	-.50	750.00	-2.30		
650.00	-3.10	625.00	.60	650.00	-.60	600.00	4.00	731.00	-2.90	640.00	-1.70				
		650.00	.70	657.00	-.90	650.00	-.20								
		675.00	.40	667.00	-2.30	700.00	-1.70								
		700.00	-.50	675.00	-2.40	729.00	-2.20								
		725.00	-1.00	700.00	-2.70	750.00	-1.60								
		750.00	-1.40	725.00	-2.80	759.00	-1.40								
				731.00	-2.90	800.00	-2.50								
				737.00	-1.00	825.00	-3.30								
				750.00	-1.40										
				775.00	-1.80										
				800.00	-2.00										
				825.00	-2.80										
				850.00	-3.20										

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 7

DATE	700828	DATE	701012	DATE	701207	DATE	701218	DATE	710112	DATE	710208	DATE	710308	DATE	710408
SRVY	75	SRVY	76	SRVY	77	SRVY	78	SRVY	79	SRVY	80	SRVY	81	SRVY	82
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
358.00	17.30	358.00	17.30	358.00	16.80	358.00	17.50	358.00	17.80	358.00	17.40	358.00	17.20	358.00	18.60
395.00	17.30	388.00	17.00	400.00	17.30	375.00	17.40	375.00	17.70	375.00	17.40	400.00	16.90	400.00	15.50
411.00	16.00	400.00	16.80	430.00	17.20	400.00	17.30	400.00	17.10	400.00	16.90	420.00	16.10	415.00	15.50
426.00	17.00	410.00	15.70	450.00	10.00	425.00	16.90	409.00	16.20	422.00	16.50	427.00	16.30	430.00	15.50
446.00	13.80	425.00	17.00	500.00	7.70	450.00	13.90	425.00	17.70	430.00	16.20	441.00	14.10	450.00	13.50
450.00	12.50	450.00	12.30	550.00	7.80	458.00	13.20	447.00	13.90	445.00	14.00	448.00	13.90	456.00	9.60
500.00	8.60	500.00	8.60	562.00	7.40	470.00	10.40	473.00	9.50	464.00	10.40	450.00	13.50	500.00	5.60
511.00	8.70	540.00	6.80	600.00	3.70	475.00	9.90	500.00	7.00	475.00	9.10	460.00	10.60	550.00	4.10
540.00	5.80	587.00	7.50	650.00	-1.20	500.00	8.20	550.00	7.10	500.00	8.10	500.00	6.70	600.00	.10
550.00	4.70	600.00	6.40	670.00	-2.20	550.00	5.10	600.00	2.90	528.00	8.30	533.00	5.30	650.00	-3.60
600.00	1.50	625.00	3.60			597.00	5.80	650.00	-1.50	550.00	4.50	550.00	4.80		
631.00	.30	650.00	2.10			650.00	1.10	692.00	-3.80	600.00	1.00	575.00	3.90		
650.00	.20	700.00	.10			700.00	-1.90			638.00	-1.50	600.00	1.70		
700.00	.10	750.00	-.40							650.00	-3.00	625.00	-.90		
750.00	-1.10	790.00	-3.40									638.00	-2.10		
800.00	-2.70														

PROFILE 7

DATE	710624	DATE	710817	DATE	711007	DATE	711214	DATE	720112	DATE	720215	DATE	720223	DATE	720313
SRVY	83	SRVY	85	SRVY	86	SRVY	87	SRVY	88	SRVY	89	SRVY	90	SRVY	91
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
358.00	18.70	358.00	18.90	358.00	18.30	358.00	18.00	358.00	18.60	358.00	18.30	358.00	17.90	358.00	18.20
390.00	18.00	418.00	15.60	400.00	17.40	406.00	17.70	371.00	18.40	400.00	18.00	382.00	18.90	402.00	[illegible]
400.00	17.10	431.00	16.50	424.00	17.30	424.00	17.30	400.00	17.70	415.00	17.00	400.00	18.20	425.00	17.60
426.00	17.10	449.00	13.90	447.00	13.60	450.00	14.40	419.00	16.90	428.00	17.70	426.00	18.00	443.00	14.10
447.00	13.70	460.00	11.30	450.00	12.80	467.00	10.20	444.00	13.90	450.00	13.60	445.00	14.50	458.00	8.70
475.00	9.70	480.00	9.70	462.00	11.00	500.00	8.40	455.00	11.00	475.00	9.20	453.00	9.50	500.00	6.90
500.00	7.50	487.00	7.50	463.00	10.30	550.00	6.40	500.00	8.80	500.00	7.30	500.00	6.40	550.00	4.10
525.00	3.80	500.00	5.10	500.00	6.60	600.00	2.00	550.00	4.20	550.00	3.40	542.00	4.80	600.00	.10
550.00	1.20	525.00	2.20	525.00	3.60	640.00	-3.00	600.00	1.00	575.00	2.50	568.00	4.80	635.00	-2.80
600.00	-3.20	550.00	-.80	550.00	.30			650.00	-1.80	600.00	1.10	600.00	.80		
		600.00	-1.30	600.00	-3.10					650.00	-2.90	625.00	-1.20		
		650.00	-1.80									640.00	-3.20		
		700.00	-2.30												

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 7

DATE	720411	DATE	720823	DATE	721017	DATE	721205	DATE	730103	DATE	730213	DATE	730313	DATE	730324
SRVY	92	SRVY	93	SRVY	94	SRVY	95	SRVY	96	SRVY	97	SRVY	98	SRVY	99
TIME	1200	TIME	1200	TIME	900	TIME	1000	TIME	1100	TIME	1000	TIME	1200	TIME	1200
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358.00	18.00	358.00	18.10	358.00	18.30	358.00	18.00	358.00	18.00	358.00	18.00	358.00	18.10	358.00	18.00
370.00	18.30	400.00	18.40	375.00	19.40	378.00	19.30	370.00	18.10	381.00	20.00	372.00	18.70	370.00	18.90
400.00	18.10	421.00	17.80	390.00	19.20	400.00	18.60	400.00	19.50	394.00	19.60	382.00	20.10	400.00	19.20
422.00	17.20	449.00	10.80	400.00	18.80	421.00	18.20	429.00	18.10	400.00	19.10	400.00	19.60	425.00	16.40
444.00	14.00	500.00	9.00	424.00	18.30	444.00	11.70	450.00	12.00	423.00	18.50	420.00	18.70	435.00	14.60
450.00	10.50	511.00	9.20	447.00	11.60	450.00	10.50	500.00	8.60	446.00	11.90	437.00	14.50	439.00	12.90
500.00	8.00	550.00	4.00	450.00	11.20	500.00	9.00	550.00	6.00	450.00	11.70	443.00	12.00	450.00	11.50
530.00	6.80	600.00	-.60	500.00	8.00	550.00	5.00	600.00	2.20	500.00	7.00	450.00	11.20	500.00	5.80
550.00	4.00	625.00	-2.00	518.00	6.80	600.00	.60	650.00	-3.20	550.00	2.00	487.00	7.30	550.00	-.30
600.00	.20			525.00	5.10	630.00	-2.00			600.00	-2.00	500.00	6.50		
650.00	-1.00			550.00	1.10							550.00	1.20		
700.00	-2.20			572.00	-2.40							571.00	-1.60		

PROFILE 7

DATE	730402	DATE	730417	DATE	730611
SRVY	100	SRVY	101	SRVY	103
TIME	1200	TIME	1200	TIME	1200
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358.00	17.90	358.00	18.10	358.00	18.10
381.00	20.30	381.00	20.20	380.00	20.30
400.00	19.40	400.00	19.30	400.00	19.30
406.00	18.90	425.00	18.20	420.00	18.00
426.00	17.70	450.00	11.60	446.00	12.70
441.00	12.90	500.00	6.10	458.00	10.70
450.00	11.90	514.00	5.20	493.00	8.90
500.00	5.00	550.00	1.10	500.00	8.00
550.00	-.40	575.00	-1.40	534.00	7.00
575.00	-2.40	600.00	-1.80	550.00	6.10
				575.00	4.50
				600.00	.90
				616.00	-1.80
				625.00	-2.60

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 8

DATE	620926	DATE	620928	DATE	621011	DATE	621023	DATE	621029	DATE	621108	DATE	621210	DATE	630115
SRVY	1	SRVY	2	SRVY	4	SRVY	5	SRVY	6	SRVY	7	SRVY	8	SRVY	9
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
195.00	5.20	347.00	8.20	368.00	8.80	378.00	9.30	382.00	9.40	376.00	10.80	365.00	8.60	0.00	5.10
237.00	6.90	373.00	9.20	403.00	11.00	404.00	11.00	458.00	8.40	378.00	10.30	385.00	12.10	50.00	4.90
273.00	10.00	402.00	11.20	443.00	9.50	450.00	8.70	495.00	6.20	398.00	10.70	391.00	11.00	100.00	5.50
295.00	9.30	412.00	11.40	467.00	7.80	474.00	8.10	513.00	3.60	415.00	11.20	414.00	10.80	200.00	6.20
305.00	8.50	432.00	10.10	477.00	6.30	501.00	5.50	550.00	-.90	419.00	8.40	470.00	6.20	240.00	7.00
345.00	8.10	444.00	9.00	502.00	4.70	533.00	1.80	585.00	-3.00	446.00	5.90	550.00	-1.20	274.00	9.00
375.00	9.30	458.00	8.00	529.00	1.70	566.00	-1.50			466.00	6.10	601.00	-3.60	301.00	6.50
403.00	11.10	460.00	7.10	563.00	1.20					512.00	1.70			344.00	6.00
443.00	9.00	475.00	4.60	590.00	-2.00					547.00	-.90			346.00	6.40
468.00	7.70	498.00	2.80											351.00	7.90
493.00	5.10	523.00	1.50											373.00	10.70
517.00	3.20	555.00	.80											375.00	10.70
544.00	1.10	580.00	-.10											383.00	13.00
570.00	-.10	613.00	-1.30											408.00	10.50
594.00	.10													415.00	10.10
630.00	-1.20													420.00	8.60
650.00	-2.20													426.00	6.40
														452.00	6.40
														477.00	6.70
														519.00	5.20
														551.00	.10
														576.00	-1.60

PROFILE 8

DATE	630121	DATE	630128	DATE	630204	DATE	630212	DATE	630220	DATE	630226	DATE	630304	DATE	630311
SRVY	10	SRVY	11	SRVY	12	SRVY	13	SRVY	14	SRVY	15	SRVY	16	SRVY	17
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
200.00	6.30	455.00	7.80	401.00	10.70	401.00	10.90	425.00	8.00	471.00	6.30	455.00	7.10	412.00	10.10
250.00	9.00	475.00	5.50	414.00	10.10	412.00	10.20	455.00	7.50	501.00	5.50	471.00	6.70	421.00	8.20
299.00	9.90	552.00	-.50	421.00	8.60	424.00	8.60	476.00	5.80	526.00	2.90	476.00	6.00	453.00	7.40
350.00	9.40	560.00	-1.10	426.00	8.40	455.00	7.80	501.00	3.80	551.00	.80	502.00	4.00	501.00	4.20
375.00	11.30			455.00	7.70	[illegible]	6.70	551.00	1.10	576.00	-.40	528.00	1.90	530.00	1.50
383.00	13.00			475.00	5.80	475.00	5.30	575.00	-.40	601.00	-2.40	575.00	-1.00	551.00	-.70
400.00	10.90			501.00	4.60	501.00	4.20	601.00	-1.70					577.00	-1.10
452.00	7.90			526.00	1.90	551.00	-1.20								
500.00	4.70			551.00	-.70										
551.00	-1.20														

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 8

DATE	630319	DATE	630326	DATE	630404	DATE	630528	DATE	630613	DATE	630625	DATE	630711	DATE	630725
SRVY	18	SRVY	19	SRVY	20	SRVY	21	SRVY	22	SRVY	23	SRVY	24	SRVY	25
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
478.00	5.50	401.00	11.00	407.00	9.90	0.00	5.10	444.00	7.60	401.00	11.50	400.00	11.40	425.00	8.40
500.00	3.70	412.00	10.00	424.00	8.50	101.00	5.30	475.00	6.80	423.00	8.30	423.00	8.60	454.00	6.00
526.00	.80	424.00	8.30	452.00	7.40	150.00	5.80	502.00	5.90	451.00	7.50	451.00	7.70	463.00	6.20
552.00	0.00	475.00	6.40	476.00	6.10	200.00	5.90	526.00	3.30	476.00	7.80	477.00	8.00	500.00	3.90
578.00	-1.00	501.00	4.40	501.00	4.00	251.00	8.20	551.00	1.40	501.00	5.20	526.00	1.00	526.00	2.30
		527.00	1.80	526.00	2.00	301.00	12.00	577.00	.80	526.00	1.20	552.00	-.50	551.00	1.50
		551.00	-.80	551.00	-.70	325.00	12.20	601.00	-.60	551.00	-.40			601.00	-1.20
				577.00	-1.40	350.00	13.30	627.00	-1.60						
						376.00	13.50								
						400.00	11.30								
						426.00	8.20								
						451.00	7.50								
						475.00	6.40								
						501.00	6.70								
						512.00	6.50								
						551.00	2.80								
						576.00	1.20								
						602.00	-.20								
						627.00	-1.20								

PROFILE 8

DATE	630806	DATE	630820	DATE	630906	DATE	630926	DATE	631010	DATE	631025	DATE	631115	DATE	631227
SRVY	26	SRVY	27	SRVY	28	SRVY	29	SRVY	30	SRVY	31	SRVY	32	SRVY	33
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
475.00	6.50	401.00	11.50	375.00	13.60	378.00	13.60	454.00	7.40	428.00	9.10	454.00	7.80	328.00	12.30
501.00	6.40	425.00	8.20	401.00	7.90	424.00	9.00	478.00	6.80	455.00	7.60	479.00	8.20	353.00	13.90
550.00	1.10	450.00	7.70	425.00	7.10	454.00	7.40	504.00	7.00	505.00	4.60	505.00	5.50	380.00	12.80
576.00	-.40	479.00	6.70	451.00	5.30	478.00	6.40	508.00	5.90	530.00	2.40	554.00	-.30	403.00	12.30
602.00	-.70	502.00	6.30	475.00	3.40	505.00	6.50	555.00	.90	554.00	.50	581.00	-2.30	427.00	9.30
651.00	-1.40	552.00	1.50	501.00	2.00	530.00	6.10	580.00	-1.80	581.00	-.90			453.00	8.00
		602.00	-.50	551.00	0.00	555.00	2.40							478.00	7.80
		627.00	-1.20			581.00	.60							529.00	4.00
														605.00	1.30
														648.00	-1.80

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 8

DATE	640115	DATE	640212	DATE	640310	DATE	640407	DATE	640525	DATE	640623	DATE	640829	DATE	640923
SRVY	34	SRVY	35	SRVY	36	SRVY	37	SRVY	38	SRVY	39	SRVY	40	SRVY	41
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
-255.00	3.50	404.00	10.40	326.00	12.00	342.00	6.10	350.00	6.70	350.00	6.50	347.00	12.00	351.00	6.90
-228.00	3.50	426.00	7.20	350.00	7.40	353.00	6.70	375.00	11.30	374.00	10.80	400.00	11.20	378.00	10.80
-179.00	4.50	502.00	.90	373.00	9.80	379.00	10.50	406.00	11.80	402.00	11.10	427.00	7.40	406.00	11.10
-142.00	4.50	553.00	-.10	403.00	11.00	403.00	6.20	425.00	7.30	426.00	7.50	476.00	4.60	420.00	7.60
-103.00	4.90	578.00	-1.00	422.00	6.80	429.00	6.80	451.00	4.80	451.00	6.20	503.00	5.70	452.00	6.30
-53.00	4.90	598.00	-2.60	451.00	5.20	480.00	4.20	502.00	1.30	476.00	4.60	526.00	5.70	480.00	5.70
-35.00	5.40			477.00	4.70	504.00	3.60	552.00	-2.80	501.00	3.90	542.00	5.90	502.00	5.10
-23.00	4.90			527.00	.30	531.00	1.60			519.00	3.10	552.00	3.10	527.00	3.60
98.00	5.30			553.00	-.70	555.00	.30			552.00	-1.60	578.00	.40	603.00	-2.90
199.00	5.90			585.00	-1.10	582.00	-1.10			573.00	-3.80				
250.00	8.40			604.00	-1.50	601.00	-2.70								
299.00	12.00			628.00	-2.10										
325.00	12.30														
350.00	13.70														
375.00	12.10														
406.00	10.40														
459.00	2.50														
477.00	2.80														
503.00	1.50														
532.00	.10														
578.00	-.60														
629.00	-2.60														

PROFILE 8

DATE	641201	DATE	650119	DATE	650427	DATE	650907	DATE	651027	DATE	651222	DATE	660125	DATE	660321
SRVY	42	SRVY	43	SRVY	44	SRVY	45	SRVY	46	SRVY	47	SRVY	48	SRVY	49
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
366.00	12.90	381.00	9.50	345.00	13.00	366.00	13.10	365.00	12.90	378.00	11.20	300.00	12.90	364.00	5.60
399.00	12.70	401.00	8.10	401.00	7.40	381.00	11.30	368.00	13.50	400.00	7.80	365.00	14.50	401.00	5.00
420.00	9.70	476.00	5.00	477.00	5.40	404.00	7.50	391.00	8.20	451.00	5.80	401.00	9.10	425.00	[illegible]
451.00	6.80	501.00	4.50	502.00	5.30	451.00	5.20	401.00	6.80	491.00	5.50	440.00	5.70	450.00	6.40
477.00	5.90	525.00	3.60	552.00	-1.00	502.00	5.60	451.00	5.40	501.00	4.10	475.00	4.20	476.00	6.10
503.00	5.70	537.00	3.50	578.00	-.90	528.00	3.70	501.00	5.80	526.00	3.10	501.00	3.80	493.00	4.60
520.00	4.10	552.00	1.60	602.00	-2.30	578.00	-.20	527.00	3.70	552.00	.60	551.00	.70	526.00	3.60
552.00	2.90	576.00	-.20			603.00	-2.20	559.00	1.10	579.00	-1.40	576.00	-.40	576.00	-.60
603.00	-.80	602.00	-1.10			628.00	-2.70	577.00	-1.70	602.00	-2.30	601.00	-1.20	601.00	-2.30
628.00	-2.70	628.00	-3.20					593.00	-2.60	627.00	-3.80	622.00	-2.30	622.00	-3.30
										652.00	-3.30				
										677.00	-3.30				

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 8

DATE	660922	DATE	670116	DATE	670505	DATE	670920	DATE	671218	DATE	680117	DATE	680227	DATE	680327
SRVY	50	SRVY	51	SRVY	52	SRVY	54	SRVY	55	SRVY	56	SRVY	57	SRVY	58
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
372.00	10.30	353.00	16.20	330.00	18.00	338.00	16.00	351.00	15.80	358.00	16.80	317.00	13.50	317.00	13.50
395.00	7.60	378.00	14.00	363.00	15.40	361.00	16.80	360.00	15.80	375.00	15.30	359.00	16.50	343.00	15.00
450.00	6.30	400.00	8.50	380.00	14.30	393.00	13.30	376.00	15.50	390.00	9.20	376.00	14.90	374.00	15.30
460.00	6.00	426.00	6.70	400.00	10.00	400.00	8.40	397.00	8.80	400.00	8.00	399.00	8.80	394.00	6.90
476.00	4.20	501.00	4.10	451.00	5.00	426.00	7.30	451.00	4.00	449.00	4.80	426.00	6.40	449.00	5.80
501.00	2.30	526.00	4.00	501.00	3.20	451.00	5.00	501.00	2.00	498.00	4.20	449.00	5.80	499.00	3.30
551.00	-.60	551.00	3.00	551.00	.90	476.00	4.10	541.00	2.20	513.00	4.40	474.00	5.60	537.00	2.60
		576.00	.50	602.00	-3.20	501.00	3.90	552.00	1.80	574.00	-2.20	522.00	1.20	550.00	1.60
		601.00	-1.00	627.00	-4.30	529.00	1.90	602.00	-2.10	598.00	-3.50	550.00	-.30	599.00	-3.50
						551.00	-.60	632.00	-4.10			575.00	-1.20	645.00	-5.70
						577.00	-3.00					599.00	-2.90		

PROFILE 8

DATE	681009	DATE	681023	DATE	681113	DATE	681218	DATE	690115	DATE	690213	DATE	690304	DATE	690528
SRVY	59	SRVY	60	SRVY	61	SRVY	62	SRVY	63	SRVY	64	SRVY	65	SRVY	66
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
305.00	15.20	305.00	15.20	342.00	14.30	355.00	15.80	357.00	16.80	357.00	16.90	358.00	16.80	357.00	15.50
360.00	15.80	360.00	16.70	355.00	15.90	377.00	15.70	375.00	16.00	375.00	16.10	375.00	16.30	374.00	16.20
375.00	16.10	375.00	16.20	377.00	15.90	390.00	10.20	393.00	9.20	396.00	8.70	390.00	9.90	397.00	9.20
390.00	11.00	395.00	9.50	390.00	10.30	400.00	8.40	425.00	6.20	425.00	6.20	400.00	8.30	450.00	5.90
400.00	8.00	450.00	5.80	400.00	8.50	450.00	4.90	450.00	4.90	450.00	4.90	450.00	4.20	500.00	5.70
450.00	6.00	500.00	5.80	450.00	4.20	500.00	4.10	500.00	4.00	475.00	4.40	470.00	3.50	525.00	2.30
500.00	6.50	525.00	4.10	500.00	2.00	550.00	2.30	525.00	4.10	500.00	3.80	500.00	1.30	550.00	-1.70
518.00	5.50	550.00	2.60	550.00	0.00	600.00	-1.20	550.00	1.10	525.00	1.80	550.00	-1.90	600.00	-3.60
525.00	3.60	575.00	1.30	600.00	-1.50	650.00	-4.70	575.00	-1.10	550.00	0.00	600.00	-3.60	650.00	-4.10
550.00	1.10	600.00	-.40					600.00	-2.70	575.00	-2.00				
575.00	-.10	625.00	-3.00					615.00	-3.40	600.00	-3.70				
600.00	-1.30									615.00	-4.50				
625.00	-2.80														
650.00	-3.90														

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 8

DATE	690924	DATE	691020	DATE	691118	DATE	691218	DATE	700120	DATE	700216	DATE	700319	DATE	700521
SRVY	67	SRVY	68	SRVY	69	SRVY	70	SRVY	71	SRVY	72	SRVY	73	SRVY	74
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
317.00	12.10	339.00	16.10	317.00	12.60	317.00	12.70	317.00	12.70	317.00	12.60	319.00	13.00	328.00	12.90
345.00	17.20	350.00	16.50	335.00	16.40	334.00	16.30	332.00	16.30	333.00	15.50	332.00	16.50	342.00	16.50
368.00	16.30	370.00	16.10	350.00	16.60	350.00	17.00	350.00	17.10	350.00	17.40	362.00	16.90	376.00	17.00
379.00	10.80	382.00	10.60	371.00	16.30	371.00	15.80	369.00	16.40	367.00	16.70	370.00	16.60	397.00	9.90
400.00	8.00	400.00	8.20	381.00	11.00	379.00	11.40	388.00	10.00	384.00	10.80	379.00	11.30	444.00	5.70
425.00	6.90	425.00	6.80	400.00	8.50	400.00	8.60	400.00	8.60	400.00	8.70	400.00	8.80	473.00	5.30
450.00	5.70	450.00	6.50	450.00	5.20	450.00	5.60	450.00	4.10	450.00	4.90	450.00	5.00	520.00	3.10
475.00	4.10	475.00	4.30	500.00	3.40			476.00	3.10	500.00	2.90	492.00	3.20	561.00	-3.70
500.00	2.30	500.00	2.90	532.00	3.40			497.00	2.80	525.00	2.40	533.00	-1.30	600.00	-5.00
525.00	.80	525.00	.10	550.00	1.60			550.00	-.10	550.00	-.60	550.00	-1.90		
550.00	-.80	550.00	-2.40	575.00	-1.40			600.00	-1.70	575.00	-3.10	600.00	-2.70		
575.00	-1.70	575.00	-2.30	600.00	-3.80			650.00	-3.50	585.00	-3.60	650.00	-3.60		
600.00	-2.90	600.00	-3.00	625.00	-4.70			663.00	-4.10			665.00	-4.20		
625.00	-4.20	625.00	-3.80					668.00	-5.40						

PROFILE 8

DATE	700828	DATE	701012	DATE	701207	DATE	701218	DATE	710112	DATE	710208	DATE	710308	DATE	710408
SRVY	75	SRVY	76	SRVY	77	SRVY	78	SRVY	79	SRVY	80	SRVY	81	SRVY	82
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
317.00	12.60	317.00	12.70	317.00	12.30	317.00	11.80	317.00	12.70	317.00	12.70	317.00	12.80	317.00	12.50
334.00	16.20	333.00	17.10	350.00	13.50	325.00	14.40	335.00	16.20	332.00	16.20	333.00	16.00	340.00	16.50
350.00	16.90	344.00	17.30	366.00	14.10	333.00	16.30	348.00	15.80	347.00	17.50	348.00	17.10	360.00	17.20
369.00	16.60	350.00	17.20	400.00	9.40	348.00	16.80	368.00	16.80	364.00	17.00	370.00	16.00	375.00	16.80
376.00	12.90	362.00	17.70	450.00	5.30	369.00	16.60	389.00	11.10	380.00	12.50	378.00	13.10	380.00	13.10
386.00	10.10	370.00	16.50	500.00	3.10	375.00	13.50	400.00	9.30	400.00	8.60	388.00	11.70	400.00	9.10
400.00	8.50	378.00	12.60	550.00	.30	385.00	11.20	483.00	4.50	450.00	4.30	400.00	8.70	430.00	6.60
450.00	5.80	389.00	9.90	600.00	-.90	400.00	9.00	500.00	4.10	500.00	1.90	425.00	6.80	450.00	4.80
500.00	4.30	400.00	6.80	650.00	-3.80	450.00	3.90	550.00	1.00	550.00	-1.10	450.00	5.20	500.00	2.40
550.00	3.20	450.00	6.10			500.00	1.90	600.00	-3.50	600.00	-2.50	475.00	3.80	535.00	1.30
600.00	.70	500.00	5.70			550.00	.20	625.00	-4.50			500.00	3.80	585.00	-2.70
650.00	-.80	513.00	5.80			600.00	-2.20					525.00	3.20	615.00	-5.20
700.00	-2.50	550.00	2.40			650.00	-4.20					550.00	1.80		
745.00	-4.90	600.00	-.60									575.00	-.40		
		650.00	-2.40									600.00	-3.40		
		700.00	-4.20												

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 8

DATE	710624	DATE	710817	DATE	711007	DATE	711214	DATE	720112	DATE	720215	DATE	720223	DATE	720315
SRVY	83	SRVY	85	SRVY	86	SRVY	87	SRVY	88	SRVY	89	SRVY	90	SRVY	91
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
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317.00	13.20	322.00	15.10	322.00	13.40	317.00	12.80	317.00	12.80	317.00	12.70	317.00	12.80	317.00	12.80
333.00	16.10	331.00	16.20	334.00	17.20	338.00	16.70	330.00	16.40	334.00	16.30	334.00	16.30	335.00	16.20
348.00	16.80	352.00	17.30	348.00	16.90	364.00	17.00	362.00	17.40	350.00	17.10	353.00	17.10	350.00	17.00
363.00	17.20	365.00	16.90	376.00	14.30	387.00	12.70	377.00	15.10	370.00	17.00	368.00	17.20	370.00	17.50
375.00	14.00	379.00	14.00	388.00	11.20	400.00	9.30	400.00	9.40	387.00	13.60	380.00	15.20	383.00	14.00
386.00	12.00	388.00	11.20	400.00	9.20	450.00	5.30	408.00	8.30	400.00	9.50	387.00	14.40	390.00	13.50
400.00	9.60	400.00	9.50	425.00	7.00	500.00	3.30	450.00	5.80	450.00	5.70	400.00	9.00	419.00	6.90
423.00	6.60	423.00	6.00	450.00	6.00	550.00	.90	500.00	3.10	500.00	3.10	425.00	6.00	450.00	4.70
450.00	5.00	450.00	5.80	500.00	2.70	600.00	-4.20	550.00	1.40	550.00	-.90	450.00	4.00	500.00	3.20
486.00	5.10	483.00	5.60	550.00	-1.70			600.00	-1.30	600.00	-4.70	500.00	2.80	550.00	-.30
500.00	4.10	500.00	4.00	600.00	-5.30			650.00	-5.60			550.00	2.80	600.00	-4.00
525.00	1.20	525.00	1.40									575.00	-.50		
550.00	-2.50	550.00	-1.10									600.00	-4.00		
600.00	-4.60	600.00	-3.10												
		650.00	-4.10												

PROFILE 8

DATE	720411	DATE	720823	DATE	721017	DATE	721205	DATE	730103	DATE	730213	DATE	730314	DATE	730325
SRVY	92	SRVY	93	SRVY	94	SRVY	95	SRVY	96	SRVY	97	SRVY	98	SRVY	99
TIME	1200	TIME	1200	TIME	900	TIME	1000	TIME	1100	TIME	1100	TIME	1000	TIME	[illegible]
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317.00	12.70	317.00	12.80	317.00	12.80	317.00	12.90	317.00	12.80	317.00	12.80	317.00	11.90	317.00	12.90
333.00	16.20	333.00	16.50	334.00	16.50	340.00	17.00	334.00	16.20	330.00	16.00	333.00	16.20	335.00	16.30
348.00	17.10	349.00	17.50	350.00	17.50	368.00	17.20	350.00	17.50	344.00	17.50	349.00	17.50	348.00	17.20
367.00	17.10	366.00	17.50	367.00	17.50	384.00	14.40	368.00	17.40	358.00	18.10	362.00	18.20	368.00	17.40
385.00	13.90	379.00	15.50	379.00	15.40	389.00	11.90	385.00	13.20	368.00	17.50	368.00	17.20	375.00	15.60
400.00	8.70	391.00	10.70	385.00	13.40	400.00	10.20	400.00	10.50	381.00	14.20	372.00	16.10	385.00	14.70
450.00	4.40	400.00	9.40	389.00	11.90	450.00	6.70	450.00	4.90	400.00	10.60	384.00	12.80	390.00	12.40
475.00	2.90	450.00	6.70	400.00	10.10	458.00	6.50	497.00	4.70	450.00	5.10	389.00	11.90	400.00	10.50
500.00	2.70	488.00	5.00	420.00	8.00	500.00	2.50	500.00	4.20	500.00	2.10	400.00	10.30	406.00	9.00
550.00	-1.40	500.00	4.40	450.00	6.10	550.00	-1.50	525.00	1.50	550.00	-1.80	450.00	5.40	407.00	6.50
600.00	-3.60	550.00	.40	500.00	3.50	575.00	-2.90	550.00	-1.30	600.00	-4.30	500.00	2.60	450.00	5.40
		600.00	-3.30	550.00	.70			575.00	-4.10			550.00	-.90	500.00	1.20
		650.00	-4.60	600.00	-4.30							575.00	-3.50	550.00	-2.40

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 8

DATE 730403		DATE 730417		DATE 730612	
SRVY	100	SRVY	101	SRVY	103
TIME	1100	TIME	1200	TIME	1000
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317.00	12.80	317.00	12.90	317.00	12.70
333.00	16.20	333.00	16.20	334.00	16.20
348.00	17.20	350.00	17.60	350.00	17.50
367.00	17.30	363.00	18.20	367.00	17.50
372.00	15.90	378.00	16.10	382.00	15.30
384.00	14.50	384.00	14.50	400.00	9.80
389.00	12.40	389.00	12.60	414.00	8.00
400.00	9.70	400.00	9.80	450.00	6.40
402.00	8.60	411.00	7.80	463.00	6.30
420.00	7.10	433.00	7.10	475.00	4.70
450.00	7.10	450.00	5.00	500.00	4.70
500.00	4.30	500.00	2.70	525.00	3.20
525.00	.30	550.00	-1.40	550.00	1.70
550.00	-2.00	600.00	-4.90	575.00	-.30
561.00	-2.70			600.00	-3.30
				612.00	-4.30

PROFILE 9

DATE 620926		DATE 620928		DATE 621011		DATE 621023		DATE 621029		DATE 621108		DATE 621210		DATE 630115	
SRVY	1	SRVY	2	SRVY	4	SRVY	5	SRVY	6	SRVY	7	SRVY	8	SRVY	9
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
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238.00	7.00	377.00	7.90	470.00	12.30	433.00	11.80	455.00	13.20	420.00	11.70	407.00	9.20	0.00	6.00
256.00	8.30	415.00	10.00	500.00	8.70	453.00	13.20	504.00	8.60	450.00	13.30	426.00	13.30	49.00	6.30
268.00	10.30	442.00	12.90	527.00	7.90	476.00	11.60	541.00	8.10	470.00	11.80	443.00	13.10	100.00	8.00
288.00	9.80	451.00	13.40	551.00	7.50	492.00	9.70	580.00	5.70	486.00	9.90	461.00	13.20	150.00	9.10
300.00	8.70	469.00	12.40	558.00	6.10	501.00	8.70	610.00	2.50	527.00	6.00	519.00	8.20	200.00	10.10
340.00	8.50	500.00	8.30	583.00	4.90	527.00	8.30	650.00	-.80	567.00	6.60	540.00	6.90	290.00	12.70
377.00	7.90	514.00	7.80	615.00	2.30	577.00	5.80	669.00	-2.70	610.00	1.50	586.00	6.40	350.00	13.50
412.00	9.60	526.00	7.60	630.00	.50	612.00	2.60			632.00	-.40	629.00	2.40	401.00	14.60
450.00	13.20	547.00	5.50	653.00	-1.30	654.00	-.90					676.00	-1.20	415.00	15.00
470.00	12.40	579.00	3.40									711.00	-3.60	422.00	14.50
506.00	7.80	618.00	2.10											425.00	13.80
525.00	7.40	640.00	1.10											440.00	12.20
548.00	7.30	668.00	.10											455.00	12.40
572.00	5.60	692.00	-1.50											476.00	11.20
595.00	3.90													519.00	7.00
625.00	1.70													527.00	7.40
654.00	-.20													550.00	7.80
682.00	-2.10													574.00	7.90
														601.00	6.60
														624.00	4.80
														651.00	2.80
														666.00	.00
														701.00	-2.00

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 9

DATE	630121	DATE	630128	DATE	630208	DATE	630212	DATE	630220	DATE	630226	DATE	630308	DATE	630311
SRVY	10	SRVY	11	SRVY	12	SRVY	13	SRVY	14	SRVY	15	SRVY	16	SRVY	17
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
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528.00	7.40	526.00	7.40	501.00	8.80	576.00	7.50	525.00	7.40	603.00	6.70	575.00	6.90	501.00	8.60
578.00	7.60	577.00	7.60	525.00	7.40	626.00	5.80	551.00	7.00	652.00	4.20	601.00	6.60	525.00	7.50
626.00	4.90	602.00	6.50	576.00	7.50	652.00	3.50	603.00	6.70	677.00	1.80	626.00	6.00	551.00	6.60
652.00	2.90	627.00	5.10	601.00	6.60	702.00	-.20	652.00	3.50	703.00	.80	651.00	3.80	575.00	6.50
672.00	2.00	650.00	2.90	627.00	5.10	751.00	-.90	677.00	1.90	751.00	-1.50	676.00	2.30	601.00	6.30
		675.00	1.80	651.00	3.50			703.00	.60			701.00	.60	633.00	5.30
		701.00	.40	676.00	1.40			728.00	-.60			726.00	-.70	652.00	4.40
		751.00	-.60	701.00	0.00			751.00	-1.50			751.00	-1.70	677.00	2.50
		765.00	-1.00	726.00	-.60									702.00	.30
														727.00	-1.10

PROFILE 9

DATE	630319	DATE	630326	DATE	630408	DATE	630528	DATE	630613	DATE	630625	DATE	630711	DATE	630723
SRVY	18	SRVY	19	SRVY	20	SRVY	21	SRVY	22	SRVY	23	SRVY	24	SRVY	25
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
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635.00	5.60	475.00	11.20	526.00	7.30	100.00	8.10	453.00	13.00	526.00	7.30	551.00	6.80	532.00	7.00
657.00	3.60	500.00	8.60	550.00	7.00	150.00	9.80	473.00	10.50	576.00	6.50	576.00	6.80	552.00	6.70
676.00	1.70	528.00	7.30	576.00	6.00	200.00	10.90	500.00	8.60	601.00	7.50	602.00	7.50	576.00	6.40
752.00	-.70	572.00	6.40	601.00	6.30	250.00	12.50	525.00	7.20	651.00	3.70	630.00	5.40	600.00	7.50
		631.00	6.50	626.00	6.40	300.00	13.60	550.00	6.50	677.00	.40	673.00	.50	626.00	7.00
		636.00	4.70	651.00	2.50	325.00	14.80	577.00	6.60	702.00	-1.50	702.00	-1.00	675.00	3.00
		652.00	2.80	677.00	1.10	400.00	14.70	602.00	7.10					701.00	1.50
		679.00	1.20	702.00	0.00	411.00	14.40	627.00	6.20					752.00	.30
		703.00	-.10	727.00	-1.20	417.00	14.90	651.00	3.20					778.00	-.60
		728.00	-1.00			425.00	14.80	677.00	.90						
						451.00	13.20	702.00	-.80						
						476.00	10.70	726.00	-1.30						
						498.00	8.90								
						525.00	7.10								
						551.00	6.50								
						575.00	6.30								
						614.00	7.00								
						627.00	6.50								
						651.00	3.70								
						676.00	1.30								
						702.00	0.00								
						727.00	-1.10								

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 9

DATE 630806		DATE 630820		DATE 630906		DATE 630926		DATE 631010		DATE 631025		DATE 631115		DATE 631227	
SRVY	26	SRVY	27	SRVY	28	SRVY	29	SRVY	30	SRVY	31	SRVY	32	SRVY	33
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
552.00	6.70	551.00	6.60	577.00	6.60	479.00	10.70	539.00	7.60	0.00	6.10	531.00	8.10	392.00	14.70
601.00	6.50	602.00	7.20	604.00	7.00	529.00	8.00	554.00	6.40	50.00	6.60	581.00	7.70	405.00	15.40
625.00	5.80	628.00	7.30	628.00	5.90	580.00	6.20	605.00	7.10	101.00	8.00	605.00	6.50	425.00	12.80
651.00	4.30	652.00	6.00	652.00	3.30	605.00	6.50	629.00	3.50	201.00	10.80	631.00	3.50	450.00	12.30
701.00	.30	702.00	1.60	677.00	1.70	631.00	4.80	672.00	-1.00	252.00	12.40	681.00	-1.21	480.00	8.40
725.00	-1.10	730.00	.50	728.00	.20	681.00	-.40			306.00	13.40			555.00	6.60
776.00	-2.20	778.00	-2.00							353.00	14.30			581.00	4.70
										400.00	14.70			605.00	2.40
										407.00	14.50			630.00	2.20
										413.00	14.90			656.00	1.50
										426.00	14.60			683.00	.50
										450.00	13.20			707.00	-1.60
										479.00	10.80			717.00	-2.10
										532.00	8.10				
										556.00	6.30				
										576.00	7.10				
										605.00	7.40				
										631.00	5.30				
										681.00	-.70				

PROFILE 9

DATE 640115		DATE 640212		DATE 640310		DATE 640407		DATE 640525		DATE 640621		DATE 640820		DATE 640924	
SRVY	34	SRVY	35	SRVY	36	SRVY	37	SRVY	38	SRVY	39	SRVY	40	SRVY	41
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
-155.00	4.40	474.00	8.50	400.00	15.60	400.00	14.80	389.00	14.00	387.00	14.70	399.00	16.20	399.00	15.60
-105.00	5.50	501.00	7.30	425.00	12.90	426.00	13.20	399.00	16.00	400.00	15.90	424.00	12.90	425.00	15.10
-54.00	5.80	552.00	3.40	450.00	13.70	450.00	14.30	425.00	12.70	425.00	13.00	445.00	14.30	441.00	14.60
47.00	6.50	577.00	2.10	476.00	8.50	476.00	9.20	450.00	14.00	450.00	13.80	470.00	7.80	459.00	12.70
248.00	12.00	602.00	1.40	501.00	7.10	502.00	6.30	475.00	9.10	470.00	9.60	501.00	8.60	475.00	10.00
349.00	14.30	628.00	1.10	525.00	6.60	551.00	4.10	501.00	7.50	502.00	7.60	532.00	7.90	526.00	6.10
389.00	14.60	653.00	.10	552.00	6.60	577.00	2.20	526.00	7.20	526.00	6.00	551.00	4.80	551.00	3.00
399.00	15.60	678.00	-1.30	578.00	5.10	602.00	-.10	542.00	6.80	553.00	3.80	576.00	2.00	577.00	1.10
421.00	13.90	693.00	-2.40	604.00	1.80	627.00	-2.10	577.00	2.20	577.00	.90			590.00	-.30
475.00	8.40			626.00	-.20			627.00	-1.70	602.00	-.90				
526.00	3.50			677.00	-1.90					617.00	-1.80				
552.00	2.50														
603.00	1.60														
653.00	.20														
679.00	-1.00														
688.00	-1.80														

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 9

DATE	641201	DATE	650119	DATE	650427	DATE	650907	DATE	651027	DATE	651222	DATE	660125	DATE	660321
SRVY	42	SRVY	43	SRVY	44	SRVY	45	SRVY	46	SRVY	47	SRVY	48	SRVY	49
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
389.00	14.50	465.00	11.50	400.00	15.80	438.00	15.70	438.00	15.90	400.00	15.90	385.00	19.10	463.00	11.40
400.00	15.80	490.00	9.90	438.00	15.90	476.00	10.30	452.00	14.70	450.00	14.50	409.00	16.10	500.00	8.70
425.00	13.90	501.00	7.50	465.00	12.00	500.00	8.10	474.00	10.00	470.00	10.30	420.00	15.30	545.00	7.90
451.00	14.10	552.00	4.60	501.00	8.40	551.00	7.80	501.00	7.80	502.00	8.00	433.00	13.60	575.00	5.50
475.00	10.50	568.00	4.70	552.00	6.00	602.00	7.80	552.00	8.00	551.00	8.20	460.00	12.50	601.00	3.20
501.00	9.00	602.00	2.00	602.00	1.70	627.00	3.70	586.00	7.90	560.00	8.50	501.00	8.20	626.00	1.30
526.00	8.10	652.00	0.00	630.00	.30	652.00	.70	627.00	5.00	567.00	7.40	551.00	5.80	651.00	-1.20
551.00	6.50	678.00	-.90	655.00	-1.10	677.00	-1.20	679.00	-1.00	590.00	7.10	602.00	3.30	677.00	-2.70
602.00	2.10	703.00	-2.80			688.00	-2.70	703.00	-2.10	601.00	5.80	626.00	1.80		
627.00	-.40									653.00	-.20	652.00	.80		
652.00	-2.40									679.00	-1.10	672.00	.30		
										703.00	-1.20	692.00	-.70		
										728.00	-1.60				
										753.00	-1.10				
										778.00	-1.10				
										803.00	-2.10				

PROFILE 9

DATE	660922	DATE	670118	DATE	670505	DATE	670920	DATE	671218	DATE	680117	DATE	680227	DATE	680327
SRVY	50	SRVY	51	SRVY	52	SRVY	54	SRVY	55	SRVY	56	SRVY	57	SRVY	58
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
440.00	15.40	427.00	17.40	399.00	18.00	405.00	17.90	424.00	17.90	427.00	17.40	400.00	16.80	421.00	17.30
450.00	15.00	453.00	14.50	423.00	19.60	427.00	18.50	450.00	13.80	453.00	13.80	422.00	17.80	450.00	14.00
460.00	11.40	501.00	8.80	435.00	17.10	441.00	15.40	476.00	10.00	467.00	10.30	457.00	13.80	473.00	10.20
500.00	8.70	551.00	7.30	453.00	14.80	451.00	13.20	500.00	6.60	501.00	6.70	481.00	9.20	490.00	7.60
526.00	8.80	576.00	7.90	480.00	10.40	475.00	10.50	526.00	4.10	541.00	5.90	525.00	4.80	550.00	5.40
551.00	5.90	601.00	5.40	500.00	8.70	501.00	8.30	551.00	5.10	575.00	3.20	551.00	3.00	565.00	4.60
600.00	3.30	626.00	2.50	525.00	7.30	526.00	7.50	581.00	3.00	601.00	.70	600.00	-.30	601.00	1.10
627.00	1.20	651.00	.40	551.00	6.30	551.00	6.10	601.00	2.20	629.00	-.30	624.00	-2.30	650.00	-3.60
652.00	-.60			576.00	5.80	601.00	.20	651.00	-1.90	651.00	-1.00			675.00	-4.70
				601.00	3.40	626.00	-1.70								
				626.00	1.10										
				651.00	-.60										

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 9

DATE	681009	DATE	681023	DATE	681113	DATE	681218	DATE	690115	DATE	690213	DATE	690304	DATE	690528
SRVY	59	SRVY	60	SRVY	61	SRVY	62	SRVY	63	SRVY	64	SRVY	65	SRVY	66
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
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415.00	16.70	415.00	17.20	425.00	17.70	425.00	17.50	425.00	17.70	425.00	17.80	425.00	17.30	425.00	17.60
432.00	17.10	430.00	17.40	432.00	17.10	432.00	17.00	435.00	16.90	440.00	15.90	440.00	15.70	440.00	15.70
442.00	15.40	440.00	15.70	455.00	14.90	455.00	15.30	440.00	15.60	458.00	15.00	462.00	14.70	453.00	15.20
452.00	14.70	450.00	15.00	465.00	11.20	465.00	11.50	456.00	15.10	473.00	9.70	468.00	10.10	474.00	9.30
472.00	10.50	457.00	11.80	500.00	7.50	500.00	7.70	468.00	10.80	500.00	7.80	500.00	6.10	500.00	7.30
500.00	8.50	475.00	10.10	550.00	4.00	550.00	6.30	500.00	7.50	525.00	5.60	550.00	2.60	550.00	7.40
556.00	9.80	500.00	8.50	600.00	2.00			550.00	7.10	550.00	3.70	600.00	.70	569.00	6.00
568.00	6.40	555.00	9.80	650.00	.20			592.00	6.80	575.00	2.20			580.00	5.40
575.00	5.40	575.00	8.00	700.00	-.80			625.00	3.80	600.00	.80			600.00	3.50
600.00	2.70	580.00	6.70					650.00	.80	625.00	-.60			650.00	-1.10
625.00	1.50	600.00	4.90					675.00	-.80	650.00	-1.40			700.00	-3.20
650.00	.50	625.00	3.20												
675.00	-.50	650.00	.90												
700.00	-2.00	670.00	-1.10												

PROFILE 9

DATE	690924	DATE	691020	DATE	691118	DATE	691218	DATE	700120	DATE	700216	DATE	700319	DATE	700521
SRVY	67	SRVY	68	SRVY	69	SRVY	70	SRVY	71	SRVY	72	SRVY	73	SRVY	74
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
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397.00	15.20	423.00	17.80	387.00	15.10	387.00	15.00	387.00	14.90	406.00	16.40	394.00	15.50	396.00	15.60
417.00	16.50	440.00	15.80	425.00	18.00	400.00	15.90	396.00	16.00	420.00	17.40	402.00	17.40	426.00	18.60
425.00	17.90	453.00	14.60	440.00	16.10	423.00	17.60	426.00	18.50	432.00	17.40	427.00	18.70	442.00	15.50
440.00	15.40	456.00	12.90	455.00	14.50	440.00	15.90	440.00	15.80	441.00	15.30	440.00	15.40	494.00	8.40
455.00	15.00	475.00	9.50	463.00	11.60	450.00	14.70	450.00	14.90	455.00	15.30	453.00	14.00	562.00	8.00
462.00	11.20	488.00	8.60	500.00	8.20	460.00	12.40	490.00	8.50	462.00	12.50	462.00	12.80	600.00	1.70
489.00	8.50	500.00	8.60	536.00	5.40	467.00	11.20	530.00	5.30	500.00	8.70	490.00	9.10	650.00	-2.40
532.00	8.90	534.00	9.00	550.00	4.90	475.00	10.20	556.00	5.80	550.00	6.70	524.00	8.50		
550.00	6.10	550.00	6.70	575.00	4.50	500.00	8.00	600.00	2.70	572.00	5.20	550.00	5.10		
575.00	3.50	575.00	4.10	600.00	3.40	548.00	4.70	650.00	.70	600.00	3.30	600.00	1.20		
600.00	1.50	600.00	.60	625.00	.90	573.00	4.60	700.00	-1.10	625.00	1.80	650.00	-.10		
625.00	.40	625.00	1.10	630.00	.40	600.00	1.90	737.00	-2.50	650.00	.20	700.00	-1.50		
650.00	-.40	650.00	1.10	639.00	-.90	650.00	-.40			700.00	-1.10	723.00	-2.20		
675.00	-2.30	675.00	.50	650.00	-1.60	700.00	-1.40			750.00	-1.70				
700.00	-2.90	700.00	-.70			715.00	-1.40								
		725.00	-1.40			736.00	.10								
		750.00	-2.10			750.00	-.40								
						800.00	-2.00								
						835.00	-3.60								

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 9

DATE	700828	DATE	701012	DATE	701207	DATE	701218	DATE	710112	DATE	720223	DATE	720313	DATE	720411
SRVY	75	SRVY	76	SRVY	77	SRVY	78	SRVY	79	SRVY	90	SRVY	91	SRVY	92
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
387.00	14.90	387.00	15.00	387.00	14.90	387.00	14.70	400.00	16.70	387.00	15.30	387.00	14.60	387.00	14.80
397.00	15.90	400.00	16.10	400.00	16.20	400.00	16.90	425.00	18.20	400.00	16.70	400.00	17.10	400.00	16.90
400.00	16.90	423.00	18.10	450.00	15.70	425.00	18.60	440.00	15.80	425.00	18.10	425.00	18.70	420.00	17.60
423.00	17.80	438.00	15.70	500.00	8.20	443.00	15.50	454.00	15.00	430.00	18.00	430.00	18.70	436.00	15.80
440.00	15.70	450.00	14.90	550.00	4.90	450.00	15.10	475.00	11.00	442.00	15.70	439.00	15.70	454.00	14.20
451.00	15.20	458.00	13.30	600.00	2.10	461.00	13.30	515.00	6.40	456.00	15.30	455.00	15.30	470.00	12.90
463.00	12.70	465.00	12.30	650.00	1.30	475.00	10.90	550.00	6.90	473.00	13.30	473.00	13.10	479.00	10.10
500.00	8.00	500.00	8.20	700.00	-1.00	500.00	8.20	567.00	7.10	500.00	7.80	489.00	9.10	503.00	6.40
550.00	8.30	550.00	6.20	750.00	-5.20	525.00	5.90	600.00	2.80	536.00	5.00	500.00	7.00	527.00	7.40
600.00	5.00	566.00	6.10			550.00	4.60	650.00	-1.30	550.00	4.50	513.00	6.60	550.00	5.10
650.00	-.10	600.00	5.00			575.00	3.60	675.00	-2.90	597.00	4.50	560.00	7.60	590.00	-1.40
691.00	-.10	650.00	1.30			600.00	2.70			625.00	1.00	600.00	3.60	600.00	-1.40
694.00	-1.00	700.00	-.20			625.00	1.30			650.00	-2.20	650.00	-.90	650.00	-.90
700.00	-1.40	750.00	-2.00			650.00	.40					700.00	-2.00	700.00	-1.90
750.00	-1.90	775.00	-2.80			675.00	-.20								
790.00	-3.20														

PROFILE 9

DATE	720825	DATE	721017	DATE	721205	DATE	730103	DATE	730213	DATE	730314	DATE	730325	DATE	730403
SRVY	93	SRVY	94	SRVY	95	SRVY	96	SRVY	97	SRVY	98	SRVY	99	SRVY	100
TIME	1300	TIME	1000	TIME	1100	TIME	1100	TIME	1100	TIME	1000	TIME	700	TIME	1100
387.00	14.80	387.00	14.80	387.00	14.80	387.00	14.80	387.00	14.80	387.00	14.90	317.00	14.80	387.00	14.70
400.00	16.80	400.00	16.90	400.00	16.90	400.00	16.60	400.00	17.00	400.00	16.90	400.00	16.40	400.00	16.80
423.00	17.00	425.00	18.10	424.00	18.30	426.00	18.10	425.00	18.50	423.00	18.80	423.00	18.40	422.00	17.90
440.00	15.80	440.00	16.10	428.00	18.20	440.00	15.60	437.00	15.70	438.00	15.60	438.00	15.70	427.00	18.00
453.00	15.20	456.00	15.10	440.00	15.60	458.00	14.80	459.00	15.00	456.00	15.50	452.00	15.50	438.00	15.60
489.00	9.80	470.00	13.70	454.00	15.40	480.00	11.90	476.00	12.20	475.00	12.30	461.00	14.80	452.00	15.30
500.00	9.20	483.00	11.30	468.00	13.20	500.00	8.40	479.00	9.80	478.00	10.80	466.00	13.70	464.00	14.50
552.00	8.60	500.00	9.70	500.00	10.40	526.00	6.30	500.00	7.00	500.00	7.10	467.00	12.60	469.00	11.20
600.00	1.80	537.00	6.70	550.00	4.00	555.00	6.60	550.00	2.10	523.00	6.10	500.00	6.80	500.00	8.20
650.00	-2.20	550.00	4.10	600.00	0.00	575.00	4.10	600.00	.60	550.00	3.20	550.00	1.60	550.00	3.60
		592.00	-2.10	625.00	-1.80	600.00	1.00	645.00	-2.40	575.00	-.30	594.00	-1.60	600.00	-2.60
						625.00	-2.50			600.00	-2.90				

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 9

DATE	730417	DATE	730612
SRVY	101	SRVY	103
TIME	1300	TIME	1100
387.00	17.90	387.00	14.90
400.00	16.90	400.00	16.90
425.00	18.20	431.00	17.90
439.00	15.90	439.00	15.50
463.00	14.50	459.00	15.30
470.00	11.90	473.00	11.10
500.00	8.10	500.00	6.50
516.00	6.00	550.00	7.30
539.00	4.20	575.00	5.50
550.00	5.10	600.00	3.00
600.00	0.00	625.00	.10
650.00	-2.30	681.00	-2.50
675.00	-3.00		

PROFILE 10

DATE	620926	DATE	620928	DATE	621011	DATE	621023
SRVY	1	SRVY	2	SRVY	4	SRVY	5
TIME	1200	TIME	1200	TIME	1200	TIME	1200
58.00	12.90	90.00	8.00	95.00	8.60	113.00	12.10
75.00	7.80	102.00	12.20	109.00	12.00	132.00	12.70
94.00	8.00	116.00	7.70	131.00	13.10	147.00	11.60
103.00	12.00	143.00	7.60	150.00	11.50	161.00	12.00
107.00	12.10	170.00	8.40	189.00	8.40	235.00	8.40
117.00	8.80	180.00	4.80	210.00	7.00	261.00	6.10
140.00	7.90			216.00	6.20	330.00	-1.10
171.00	8.50			249.00	4.30		
189.00	5.30			283.00	2.90		
246.00	.40			311.00	1.50		
281.00	.10			341.00	-1.00		
304.00	-1.10						
330.00	-2.00						
348.00	-2.70						
368.00	-3.10						

DATE	621029	DATE	621108	DATE	621210	DATE	630115
SRVY	6	SRVY	7	SRVY	8	SRVY	9
TIME	1200	TIME	1200	TIME	1200	TIME	1200
148.00	11.70	-3.00	12.20	117.00	12.50	0.00	12.30
161.00	12.10	112.00	12.50	144.00	11.90	56.00	13.30
232.00	8.50	152.00	12.10	171.00	11.50	73.00	8.00
264.00	5.10	183.00	10.90	172.00	8.50	89.00	8.30
267.00	4.10	185.00	7.40	192.00	6.00	113.00	12.30
298.00	1.10	218.00	6.10	224.00	5.60	115.00	12.00
370.00	-2.20	237.00	6.40	256.00	2.70	125.00	13.50
		274.00	.90	301.00	.80	145.00	11.50
		300.00	-.70	324.00	-1.50	151.00	11.50
						170.00	11.20
						172.00	8.90
						203.00	7.20
						225.00	6.20
						250.00	5.90
						256.00	4.70
						276.00	3.70
						301.00	0.00
						326.00	-1.30

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 10

DATE	630121	DATE	630128	DATE	630204	DATE	630212	DATE	630220	DATE	630226	DATE	630304	DATE	630311
SRVY	10	SRVY	11	SRVY	12	SRVY	13	SRVY	14	SRVY	15	SRVY	16	SRVY	17
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
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202.00	7.10	171.00	10.90	175.00	9.00	151.00	11.50	169.00	10.80	147.00	11.40	175.00	9.20	201.00	6.70
250.00	2.80	178.00	8.60	201.00	5.80	170.00	10.70	175.00	9.00	169.00	10.30	200.00	7.00	225.00	5.40
300.00	-1.70	224.00	4.10	228.00	5.00	186.00	7.80	217.00	5.00	176.00	9.10	226.00	5.10	241.00	5.00
		252.00	3.00	250.00	2.90	226.00	5.90	250.00	2.30	192.00	7.40	251.00	3.00	275.00	1.90
		276.00	1.10	276.00	.20	253.00	3.20	278.00	.50	199.00	6.40	276.00	1.10	300.00	-.70
		302.00	-.30	302.00	-1.50	277.00	.30	301.00	-1.10	226.00	5.90	326.00	-1.20	326.00	-2.20
		326.00	-1.50			301.00	-.60			250.00	3.10	351.00	-2.00		
										277.00	.70				
										301.00	-.70				
										320.00	-1.90				

PROFILE 10

DATE	630319	DATE	630326	DATE	630404	DATE	630528	DATE	630613	DATE	630625	DATE	630711	DATE	630723
SRVY	18	SRVY	19	SRVY	20	SRVY	21	SRVY	22	SRVY	23	SRVY	24	SRVY	25
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
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88.00	8.40	196.00	7.20	194.00	7.50	-1.00	12.20	231.00	6.80	201.00	6.90	182.00	8.50	252.00	7.40
99.00	13.30	230.00	6.70	201.00	7.00	31.00	12.70	275.00	7.00	226.00	6.60	201.00	7.30	276.00	6.30
111.00	13.30	253.00	6.70	230.00	6.70	51.00	12.70	291.00	6.70	276.00	7.50	229.00	6.20	326.00	1.60
112.00	12.30	255.00	5.80	250.00	3.90	79.00	13.00	301.00	6.30	302.00	4.30	277.30	7.60	377.00	.20
125.00	13.50	301.00	1.00	276.00	1.90	84.00	11.90	326.00	1.80	326.00	.90	302.00	4.40	401.00	-1.10
148.00	11.30	325.00	-.20	376.00	-1.30	100.00	13.10	350.00	-.20	351.00	-.10				
171.00	10.30	352.00	-1.10			117.00	13.40	377.00	-1.30	376.00	-2.50				
178.00	8.00					125.00	10.10								
202.00	6.70					182.00	8.30								
226.00	6.20					200.00	7.20								
239.00	5.60					226.00	6.80								
255.00	3.70					254.00	6.80								
275.00	.30					292.00	6.50								
301.00	-1.10					351.00	.80								
						377.00	-1.10								

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 10

DATE 630806		DATE 630820		DATE 630906		DATE 630926		DATE 631010		DATE 631025		DATE 631115		DATE 631227	
SRVY	26	SRVY	27	SRVY	28	SRVY	29	SRVY	30	SRVY	31	SRVY	32	SRVY	33
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
226.00	7.00	180.00	8.50	201.00	7.30	151.00	11.60	227.00	7.10	0.00	12.30	177.00	9.40	65.00	12.80
251.00	7.60	202.00	7.30	251.00	7.50	201.00	7.00	232.00	5.80	50.00	13.00	202.00	8.90	90.00	12.20
276.00	7.60	220.00	7.00	300.00	3.60	228.00	6.30	252.00	3.60	101.00	13.00	230.00	6.90	114.00	14.00
302.00	4.70	252.00	7.50	350.00	1.10	254.00	6.50	303.00	-.90	116.00	13.20	277.00	.20	143.00	13.00
327.00	3.00	277.00	6.80	376.00	-.40	329.00	-.60			125.00	14.10			171.00	9.40
376.00	-.70	302.00	6.90							201.00	7.00			201.00	8.70
426.00	-1.30	327.00	3.00							227.00	7.00			252.00	4.40
		351.00	1.00							237.00	5.20			279.00	2.40
		401.00	-1.50							304.00	.50			328.00	1.60
										328.00	-.80			354.00	-.10
														379.00	-1.90

PROFILE 10

DATE 640115		DATE 640212		DATE 640310		DATE 640407		DATE 640525		DATE 640625		DATE 640829		DATE 640924	
SRVY	34	SRVY	35	SRVY	36	SRVY	37	SRVY	38	SRVY	39	SRVY	40	SRVY	41
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
-309.00	5.40	116.00	13.70	109.00	13.60	110.00	14.50	110.00	13.80	110.00	13.00	113.00	12.90	110.00	13.00
-278.00	5.20	142.00	13.50	120.00	14.30	125.00	14.90	125.00	13.90	116.00	14.00	126.00	14.50	121.00	15.00
-253.00	5.60	165.00	8.60	142.00	13.70	150.00	13.80	145.00	12.80	138.00	14.20	196.00	13.00	145.00	13.00
-203.00	6.00	177.00	7.10	165.00	8.90	176.00	10.40	160.00	9.30	151.00	12.40	201.00	7.50	152.00	11.10
-153.00	7.00	226.00	6.50	201.00	7.70	201.00	9.00	176.00	9.30	163.00	9.20	227.00	8.10	201.00	6.10
-102.00	8.00	277.00	4.90	251.00	6.60	226.00	7.00	202.00	7.80	191.00	8.60	251.00	6.20	252.00	4.70
-2.00	12.20	302.00	3.00	302.00	4.70	252.00	5.70	252.00	5.90	195.00	7.00	277.00	6.90	279.00	3.00
49.00	12.90	328.00	2.00	352.00	1.50	277.00	5.20	277.00	5.00	227.00	7.20	302.00	7.30	303.00	1.60
65.00	12.90	378.00	1.20	378.00	.70	302.00	4.20	302.00	5.10	251.00	5.60	327.00	3.50	328.00	.40
87.00	12.10	403.00	.50	403.00	-.30	353.00	1.40	327.00	4.10	302.00	5.40	352.00	.90	400.00	-.20
113.00	13.80	429.00	-.20	429.00	-1.10	384.00	-.10	378.00	.90	326.00	5.80				
142.00	13.50					403.00	-.80	403.00	-1.30	332.00	5.80				
165.00	8.60					418.00	-1.90			378.00	-.90				
176.00	7.10									393.00	-1.80				
201.00	4.90														
225.00	3.50														
251.00	2.80														
277.00	2.50														
302.00	1.10														
327.00	.50														
353.00	-.30														
403.00	-3.30														

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 10

DATE	641201	DATE	650119	DATE	650427	DATE	650907	DATE	651027	DATE	651222	DATE	660125	DATE	660321
SRVY	42	SRVY	43	SRVY	44	SRVY	45	SRVY	46	SRVY	47	SRVY	48	SRVY	49
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
110.00	12.50	158.00	11.00	148.00	13.80	150.00	13.80	147.00	13.70	149.00	12.90	79.00	9.00	170.00	10.70
125.00	11.90	202.00	7.50	161.00	9.90	160.00	11.20	149.00	12.90	170.00	10.30	120.00	13.50	200.00	8.20
145.00	12.70	252.00	4.60	201.00	8.90	171.00	10.40	175.00	8.60	201.00	8.20	150.00	13.70	301.00	5.70
161.00	12.80	277.00	3.90	227.00	6.90	202.00	8.00	201.00	7.80	251.00	7.80	176.00	10.70	325.00	3.40
176.00	10.60	329.00	1.40	252.00	6.70	252.00	7.20	251.00	8.00	289.00	8.50	251.00	6.30	352.00	2.60
201.00	9.40	378.00	-.50	277.00	6.20	302.00	7.90	286.00	8.80	302.00	7.00	302.00	5.50	376.00	.90
226.00	7.90	403.00	-1.60	314.00	6.10	307.00	6.20	302.00	6.90	327.00	3.40	352.00	.50	401.00	.10
252.00	5.80	428.00	-3.00	329.00	5.10	327.00	2.20	327.00	5.50	351.00	.90	377.00	-.40	428.00	-2.30
277.00	3.30			353.00	2.80	352.00	.10	352.00	3.10	377.00	-1.00				
302.00	2.20			399.00	.10	379.00	-.90	378.00	.20	402.00	-2.00				
327.00	.80			427.00	-2.00			417.00	-2.50						
352.00	-1.20														

PROFILE 10

DATE	660922	DATE	670116	DATE	670505	DATE	670920	DATE	671218	DATE	680117	DATE	680227	DATE	680327
SRVY	50	SRVY	51	SRVY	52	SRVY	53	SRVY	55	SRVY	56	SRVY	57	SRVY	58
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
163.00	13.00	150.00	14.30	120.00	13.80	107.00	14.00	145.00	14.00	178.00	14.10	114.00	13.40	124.00	13.70
182.00	10.00	167.00	13.60	150.00	13.90	151.00	14.40	170.00	14.20	190.00	10.30	169.00	13.60	150.00	14.00
202.00	8.80	179.00	10.40	170.00	13.70	176.00	11.20	200.00	9.50	200.00	9.40	199.00	9.00	175.00	13.50
226.00	8.20	201.00	8.90	195.00	9.20	196.00	9.10	226.00	6.70	249.00	6.90	227.00	6.80	193.00	9.40
251.00	8.00	251.00	7.20	226.00	6.50	224.00	6.90	251.00	4.80	278.00	6.40	250.00	4.30	224.00	8.60
302.00	4.20	300.00	7.30	251.00	4.40	251.00	7.10	276.00	4.30	325.00	1.50	276.00	2.50	250.00	5.10
327.00	3.00	320.00	6.30	276.00	1.70	278.00	4.40	301.00	4.80	359.00	-1.30	300.00	1.40	288.00	4.30
352.00	1.40	351.00	2.40	301.00	.70	301.00	1.70	326.00	4.50			350.00	-1.00	299.00	3.30
377.00	-.40	376.00	.30	327.00	-1.30	327.00	-1.30	352.00	2.80					349.00	-1.90
				351.00	-2.90	351.00	-2.00	402.00	-1.20					373.00	-3.40
								412.00	-1.60						

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 10

DATE 681009		DATE 681023		DATE 681113		DATE 681218		DATE 690115		DATE 690213		DATE 690304		DATE 690528	
SRVY	59	SRVY	60	SRVY	61	SRVY	62	SRVY	63	SRVY	64	SRVY	65	SRVY	66
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
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140.00	14.40	140.00	14.10	115.00	13.20	115.00	13.30	120.00	14.10	115.00	14.00	115.00	13.60	115.00	13.40
165.00	14.00	165.00	14.20	145.00	14.40	145.00	14.30	145.00	14.20	143.00	14.10	130.00	13.30	143.00	14.00
177.00	11.90	185.00	11.00	170.00	14.50	170.00	13.70	170.00	17.60	172.00	13.60	145.00	14.60	165.00	13.60
195.00	8.60	195.00	8.50	185.00	11.10	185.00	10.00	190.00	10.00	195.00	9.50	172.00	14.20	175.00	9.00
246.00	9.20	225.00	8.40	200.00	8.90	200.00	8.80	225.00	7.40	225.00	8.00	175.00	8.90	200.00	6.20
275.00	6.20	250.00	9.10	250.00	4.50	250.00	6.00	250.00	6.80	250.00	5.30	200.00	6.90	250.00	6.20
300.00	3.10	270.00	7.70	300.00	2.20	300.00	4.30	275.00	7.00	275.00	2.60	225.00	4.50	275.00	5.40
350.00	1.30	300.00	7.30	350.00	-.40	325.00	3.40	290.00	7.10	300.00	.60	250.00	2.60	300.00	2.20
400.00	-1.70	310.00	5.70	375.00	-1.30	350.00	1.60	300.00	5.50	325.00	-.90	300.00	.40	350.00	-1.70
425.00	-2.40	325.00	4.40			375.00	-.80	325.00	3.00	350.00	-1.60	350.00	-1.10	400.00	-2.60
		350.00	3.20			400.00	-2.30	350.00	.40						
		375.00	1.80					375.00	-1.00						
		400.00	.30												
		425.00	-1.00												

PROFILE 10

DATE 690924		DATE 691020		DATE 691118		DATE 691218		DATE 700120		DATE 700216		DATE 700319		DATE 700521	
SRVY	67	SRVY	68	SRVY	69	SRVY	70	SRVY	71	SRVY	72	SRVY	73	SRVY	74
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
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80.00	10.20	80.00	9.60	80.00	9.70	80.00	10.30	80.00	10.20	145.00	14.20	94.00	14.00	95.00	14.20
120.00	14.40	108.00	11.70	115.00	13.80	110.00	13.20	117.00	14.60	163.00	14.00	103.00	17.20	110.00	17.60
150.00	14.70	145.00	14.20	167.00	13.20	150.00	14.70	150.00	15.00	175.00	10.50	147.00	16.90	156.00	15.60
167.00	13.80	167.00	13.20	177.00	9.00	168.00	13.40	164.00	13.90	200.00	8.70	152.00	16.00	182.00	10.00
177.00	9.00	177.00	9.00	200.00	8.60	175.00	9.60	176.00	10.10	250.00	5.70	174.00	10.80	200.00	8.40
198.00	8.10	200.00	8.50	225.00	8.10	200.00	8.60	200.00	8.20	270.00	5.70	200.00	8.70	243.00	7.40
225.00	8.10	225.00	9.40	250.00	6.40	225.00	7.00	224.00	6.10	300.00	3.70	221.00	7.60	300.00	2.10
246.00	9.20	241.00	9.40	275.00	5.20	257.00	4.70	225.00	5.30	350.00	1.20	250.00	5.10	350.00	-.50
275.00	5.30	275.00	5.00	300.00	3.50	275.00	3.80	263.00	6.30	387.00	-1.30	300.00	2.50	378.00	-2.00
300.00	3.30	300.00	3.20	325.00	.80	300.00	2.60	300.00	1.70			350.00	.10		
325.00	1.80	325.00	1.40	350.00	-1.10	350.00	.60	350.00	-.80			400.00	-.40		
350.00	.40	350.00	.60			400.00	-1.10	400.00	-3.00			445.00	-1.70		
375.00	-.70	375.00	-.20			450.00	-2.80								
400.00	-1.80	400.00	-.80			475.00	-3.40								
425.00	-3.30	425.00	-1.70												
		450.00	-2.50												

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 10

DATE	700828	DATE	701012	DATE	701207	DATE	701218	DATE	710112	DATE	710208	DATE	710308	DATE	710408
SRVY	75	SRVY	76	SRVY	77	SRVY	78	SRVY	79	SRVY	80	SRVY	81	SRVY	82
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
80.00	10.40	80.00	10.40	100.00	14.50	80.00	10.40	80.00	10.40	80.00	10.20	80.00	10.70	80.00	9.70
109.00	13.80	108.00	13.50	150.00	13.50	100.00	12.70	100.00	12.80	100.00	12.50	100.00	12.50	115.00	13.50
149.00	14.80	147.00	14.80	200.00	8.90	125.00	14.80	112.00	14.60	115.00	14.40	125.00	14.70	140.00	13.90
170.00	13.10	161.00	13.80	250.00	6.60	150.00	15.10	150.00	15.30	148.00	14.90	150.00	14.80	160.00	14.00
180.00	10.00	173.00	12.20	285.00	4.40	175.00	11.80	164.00	14.00	165.00	13.50	175.00	12.60	180.00	12.80
200.00	8.30	181.00	10.20	300.00	3.30	200.00	8.90	185.00	10.50	190.00	9.40	177.00	11.40	200.00	9.30
250.00	7.70	200.00	8.30	350.00	-1.20	225.00	7.10	200.00	8.50	200.00	8.50	189.00	9.50	235.00	5.90
300.00	6.00	250.00	7.80	400.00	-2.50	250.00	5.60	229.00	6.10	250.00	4.40	200.00	9.10	275.00	4.50
350.00	3.40	290.00	7.80			275.00	5.80	263.00	6.80	300.00	1.90	221.00	6.50	325.00	1.10
400.00	.30	300.00	6.60			282.00	5.80	300.00	2.50	350.00	-.10	250.00	5.60	375.00	-2.50
450.00	-1.50	350.00	2.40			300.00	4.10	350.00	-2.50	400.00	-2.10	300.00	4.40		
500.00	-2.60	400.00	.80			325.00	1.40	375.00	-3.20	425.00	-3.30	325.00	4.10		
		450.00	-.50			350.00	0.00					350.00	2.40		
		500.00	-2.80									375.00	-.50		

PROFILE 10

DATE	710624	DATE	710817	DATE	711007	DATE	711214	DATE	720112	DATE	720215	DATE	720223	DATE	720315
SRVY	83	SRVY	85	SRVY	86	SRVY	87	SRVY	88	SRVY	89	SRVY	90	SRVY	91
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
80.00	13.40	80.00	10.40	80.00	10.30	80.00	10.10	80.00	10.30	80.00	10.20	80.00	10.20	80.00	10.40
93.00	14.10	110.00	14.20	108.00	13.70	119.00	15.00	100.00	12.70	110.00	13.60	100.00	12.00	118.00	14.00
104.00	17.40	149.00	15.20	150.00	15.30	153.00	15.20	114.00	14.60	146.00	15.20	127.00	14.40	149.00	15.70
135.00	17.20	180.00	12.90	179.00	13.00	177.00	13.60	135.00	15.20	180.00	13.10	143.00	14.70	180.00	13.20
167.00	14.00	183.00	11.70	200.00	9.40	189.00	10.80	158.00	14.90	200.00	10.20	152.00	15.00	220.00	7.50
180.00	12.30	200.00	9.20	245.00	9.60	200.00	9.90	180.00	13.10	250.00	8.20	169.00	13.90	257.00	7.20
200.00	9.80	250.00	8.50	250.00	9.00	223.00	9.70	193.00	10.10	277.00	8.00	183.00	12.90	300.00	3.10
260.00	8.00	270.00	8.90	300.00	2.40	248.00	7.40	200.00	9.80	300.00	4.60	200.00	9.50	350.00	-1.00
300.00	2.80	300.00	3.60	350.00	-1.10	250.00	6.90	250.00	8.10	350.00	-.10	250.00	5.80		
350.00	-4.00	350.00	-.40	400.00	-2.60	279.00	6.60	294.00	6.50	400.00	-2.40	285.00	4.10		
		400.00	-1.90			300.00	3.10	300.00	6.10			300.00	4.40		
		450.00	-2.40			350.00	-1.90	350.00	2.20			323.00	4.50		
						375.00	-2.40	400.00	-1.30			350.00	1.00		
								425.00	-3.80			375.00	-2.40		

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 10

DATE	720411	DATE	720823	DATE	721017	DATE	721205	DATE	730103	DATE	730215	DATE	730314	DATE	730325
SRVY	92	SRVY	93	SRVY	94	SRVY	95	SRVY	96	SRVY	97	SRVY	98	SRVY	99
TIME	1200	TIME	1300	TIME	1000	TIME	1100	TIME	1100	TIME	1100	TIME	1000	TIME	700
----	------	----	------	----	------	----	------	----	------	----	------	----	------	----	------
80.00	10.30	80.00	10.30	80.00	10.40	80.00	10.60	80.00	10.40	80.00	10.50	80.00	10.40	80.00	10.50
100.00	12.50	100.00	12.60	100.00	12.40	100.00	12.40	100.00	12.40	100.00	13.20	100.00	13.50	100.00	13.10
115.00	14.60	126.00	15.70	118.00	14.80	120.00	15.00	120.00	14.80	117.00	15.00	119.00	15.00	114.00	14.80
128.00	15.00	148.00	15.80	144.00	15.70	147.00	15.70	150.00	15.70	145.00	15.60	146.00	15.70	143.00	15.90
148.00	15.80	180.00	12.80	161.00	15.00	180.00	13.80	180.00	13.30	177.00	13.20	180.00	13.50	170.00	13.90
179.00	13.30	186.00	11.00	176.00	13.60	183.00	12.00	200.00	9.70	190.00	10.10	182.00	12.20	172.00	9.30
200.00	8.00	200.00	8.90	180.00	14.00	200.00	10.10	250.00	6.50	200.00	9.10	195.00	10.00	200.00	5.70
219.00	5.80	250.00	8.10	185.00	11.30	250.00	4.00	275.00	3.40	250.00	3.90	197.00	7.40	250.00	.70
250.00	3.10	279.00	8.40	200.00	10.20	300.00	1.50	300.00	.00	300.00	1.60	233.00	5.10	279.00	-1.20
300.00	-1.80	300.00	5.00	241.00	6.40	350.00	0.00	325.00	-1.90	350.00	-1.10	250.00	4.10		
325.00	-2.40	350.00	-.50	250.00	5.50	375.00	-1.00			372.00	-2.20	275.00	1.70		
		400.00	-2.00	286.00	4.80							300.00	-.20		
				300.00	3.70							325.00	-2.10		
				350.00	-2.00										

PROFILE 10

DATE	730403	DATE	730417	DATE	730612
SRVY	100	SRVY	101	SRVY	103
TIME	1100	TIME	1300	TIME	1100
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80.00	10.30	80.00	10.40	80.00	10.30
100.00	12.60	100.00	13.50	100.00	12.40
109.00	14.50	120.00	15.90	129.00	15.40
127.00	15.30	164.00	14.40	149.00	15.70
147.00	15.70	167.00	10.80	167.00	14.30
171.00	13.90	200.00	5.60	174.00	10.10
173.00	10.70	250.00	2.00	200.00	8.50
200.00	6.80	300.00	-2.10	219.00	8.10
250.00	1.20			234.00	6.20
285.00	-1.70			250.00	6.30
				300.00	5.50
				325.00	4.00
				350.00	2.20
				375.00	-.30
				387.00	-2.00

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 11

DATE	620926	DATE	620928	DATE	621011	DATE	621023	DATE	621029	DATE	621108	DATE	621210	DATE	630115
SRVY	1	SRVY	2	SRVY	4	SRVY	5	SRVY	6	SRVY	7	SRVY	8	SRVY	9
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
302.00	12.00	299.00	10.90	330.00	16.50	327.00	15.40	333.00	15.30	324.00	15.90	307.00	10.40	-1.00	5.10
312.00	12.70	310.00	11.50	352.00	14.10	347.00	13.50	386.00	8.70	341.00	14.10	319.00	14.40	100.00	6.90
318.00	15.80	315.00	14.70	392.00	9.30	380.00	9.20	407.00	7.40	366.00	10.60	341.00	16.90	200.00	9.40
335.00	16.10	325.00	15.40	409.00	8.30	406.00	7.80	425.00	5.30	367.00	8.20	371.00	7.00	300.00	11.60
353.00	13.80	335.00	15.20	413.00	7.70	431.00	4.80	458.00	1.20	390.00	4.50	407.00	4.00	306.00	11.80
385.00	9.80	353.00	12.70	439.00	5.40	455.00	1.90	488.00	-1.30	435.00	2.20	452.00	3.70	311.00	12.90
399.00	9.00	388.00	8.70	471.00	2.20	495.00	-1.00	506.00	-3.30	490.00	-.80	497.00	0.00	317.00	16.30
417.00	6.30	394.00	8.30	492.00	0.00							534.00	-2.40	332.00	16.90
442.00	4.40	395.00	6.10									581.00	-4.20	340.00	16.90
462.00	2.00	425.00	2.10											375.00	7.80
489.00	-.80	451.00	.50											400.00	8.40
507.00	-2.20	480.00	-.50											417.00	8.30
533.00	-2.80	510.00	-1.20											425.00	6.70
552.00	-3.10	540.00	-2.30											451.00	6.20
		558.00	-3.10											475.00	3.50
														501.00	2.40
														551.00	-.60
														576.00	-1.40

PROFILE 11

DATE	630121	DATE	630128	DATE	630204	DATE	630212	DATE	630220	DATE	630226	DATE	630304	DATE	630311
SRVY	10	SRVY	11	SRVY	12	SRVY	13	SRVY	14	SRVY	15	SRVY	16	SRVY	17
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
400.00	8.00	364.00	10.70	340.00	17.00	351.00	12.40	401.00	11.60	451.00	8.50	451.00	8.70	500.00	5.90
412.00	8.40	401.00	10.20	353.00	11.90	376.00	12.60	428.00	9.70	501.00	5.90	501.00	6.20	526.00	4.60
418.00	7.40	425.00	9.80	375.00	12.60	401.00	11.60	477.00	7.50	524.00	3.40	551.00	2.70	551.00	2.40
450.00	6.10	451.00	8.30	390.00	12.80	451.00	8.40	502.00	5.80	551.00	1.90	601.00	-.80	576.00	.60
500.00	3.30	475.00	6.90	400.00	11.50	501.00	6.30	525.00	3.40	576.00	.20	626.00	-2.90	602.00	-.40
550.00	.70	525.00	4.80	425.00	10.20	551.00	1.20	577.00	.70	601.00	-1.20			626.00	-1.70
575.00	-.80	551.00	2.40	476.00	7.20	575.00	-.40	601.00	-1.20						
		574.00	0.00	501.00	6.00	601.00	-1.10								
		601.00	-.90	526.00	5.00										
				576.00	.20										
				601.00	-1.00										

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 11

DATE	630319	DATE	630326	DATE	630408	DATE	630528	DATE	630613	DATE	630625	DATE	630711	DATE	630723
SRVY	18	SRVY	19	SRVY	20	SRVY	21	SRVY	22	SRVY	23	SRVY	24	SRVY	25
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
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502.00	5.80	357.00	12.50	358.00	12.30	0.00	4.50	401.00	11.10	475.00	7.00	401.00	11.00	400.00	11.00
530.00	3.30	377.00	12.40	401.00	11.90	50.00	5.30	451.00	7.90	527.00	4.80	426.00	9.00	451.00	7.70
551.00	1.50	405.00	11.40	426.00	9.90	123.00	7.30	477.00	6.90	552.00	2.50	476.00	7.10	501.00	7.60
601.00	-.90	426.00	9.70	451.00	8.90	300.00	12.10	501.00	5.70	577.00	-.50	501.00	7.20	526.00	4.00
		452.00	8.50	502.00	5.90	330.00	16.00	527.00	5.30	602.00	-1.10	527.00	5.20	577.00	-1.20
		505.00	6.00	552.00	1.80	336.00	16.30	576.00	.20			577.00	-1.00		
		509.00	4.40	602.00	-.80	351.00	13.50	627.00	-1.70						
		525.00	2.50	627.00	-1.50	376.00	11.90								
		552.00	.60			380.00	12.20								
		602.00	1.20			390.00	11.20								
						401.00	11.10								
						425.00	9.50								
						451.00	8.30								
						501.00	5.10								
						528.00	3.10								
						552.00	1.70								
						576.00	-.20								
						602.00	-1.50								

PROFILE 11

DATE	630808	DATE	630820	DATE	630906	DATE	630926	DATE	631010	DATE	631025	DATE	631115	DATE	631227
SRVY	26	SRVY	27	SRVY	28	SRVY	29	SRVY	30	SRVY	31	SRVY	32	SRVY	33
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
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371.00	12.30	352.00	13.50	400.00	11.20	403.00	11.10	382.00	12.10	404.00	11.00	397.00	11.20	304.00	12.00
380.00	12.50	376.00	12.10	427.00	9.60	429.00	9.40	405.00	10.90	443.00	7.20	429.00	8.90	312.00	15.90
392.00	11.70	382.00	12.10	451.00	6.80	454.00	5.80	429.00	8.20	455.00	5.50	455.00	10.40	337.00	17.70
402.00	11.50	391.00	11.50	475.00	4.90	505.00	5.90	455.00	6.10	505.00	7.20	479.00	7.00	357.00	12.70
451.00	8.50	402.00	11.10	502.00	3.90	556.00	3.00	480.00	7.30	530.00	5.90	505.00	7.50	379.00	11.80
475.00	7.60	452.00	8.30			582.00	.10	505.00	4.50	556.00	3.30	531.00	5.40	405.00	10.40
500.00	8.20	475.00	7.20			607.00	-2.40	530.00	2.70	581.00	0.00	555.00	2.50	430.00	8.60
526.00	7.30	528.00	7.70					556.00	0.00	606.00	-1.00	582.00	.10	455.00	7.30
551.00	4.90	553.00	4.80					581.00	-1.00			606.00	-1.00	480.00	6.80
601.00	-.40	577.00	1.70											505.00	5.30
		604.00	0.00											534.00	3.10
		629.00	-2.00											556.00	1.80
														606.00	0.00

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 11

DATE	640115	DATE	640212	DATE	640310	DATE	640407	DATE	640525	DATE	640623	DATE	640829	DATE	640920
SRVY	34	SRVY	35	SRVY	36	SRVY	37	SRVY	38	SRVY	39	SRVY	40	SRVY	41
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
-132.00	4.10	353.00	12.70	295.00	11.70	295.00	12.80	295.00	11.70	300.00	16.00	300.00	13.40	300.00	13.00
-103.00	4.70	360.00	13.00	312.00	16.60	316.00	17.00	320.00	17.30	329.00	17.90	316.00	16.40	311.00	16.60
-53.00	5.00	401.00	10.50	329.00	18.10	328.00	17.70	342.00	16.90	342.00	16.70	342.00	17.10	325.00	17.70
-33.00	5.30	426.00	6.80	362.00	12.00	342.00	16.80	360.00	12.10	361.00	12.20	359.00	11.90	343.00	16.00
-3.00	5.00	451.00	6.60	401.00	10.50	349.00	13.70	375.00	11.70	402.00	10.10	376.00	11.50	359.00	12.00
47.00	5.30	467.00	6.70	416.00	8.10	375.00	11.50	402.00	10.10	427.00	8.10	425.00	8.20	376.00	11.60
98.00	6.70	476.00	4.80	453.00	6.50	402.00	10.20	426.00	7.40	452.00	7.40	449.00	8.00	402.00	10.00
148.00	7.70	504.00	2.40	477.00	6.20	425.00	7.50	476.00	6.80	476.00	6.10	477.00	3.00	427.00	8.50
199.00	9.20	528.00	1.10	502.00	5.60	452.00	6.70	497.00	5.20	502.00	3.30	502.00	.60	452.00	7.30
249.00	10.50	577.00	.20	528.00	5.60	478.00	6.60	502.00	3.50	527.00	-.50			503.00	5.00
298.00	11.60	603.00	-1.50	578.00	1.90	503.00	6.90	527.00	1.20	543.00	-1.90			560.00	-.80
308.00	16.00			605.00	.70	512.00	6.80	553.00	-1.70						
332.00	17.40			633.00	-1.00	515.00	4.20								
353.00	12.80			654.00	-1.80	527.00	2.50								
377.00	12.10					598.00	-2.70								
402.00	11.10														
411.00	9.30														
477.00	5.00														
502.00	2.10														
527.00	2.00														
553.00	2.40														
579.00	.40														
604.00	-.30														
650.00	-2.20														

PROFILE 11

DATE	641201	DATE	650119	DATE	650427	DATE	650907	DATE	651027	DATE	651222	DATE	660125	DATE	660321
SRVY	42	SRVY	43	SRVY	44	SRVY	45	SRVY	46	SRVY	47	SRVY	48	SRVY	49
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
299.00	12.70	371.00	11.90	332.00	18.10	350.00	14.30	332.00	18.10	343.00	17.00	300.00	13.00	350.00	13.40
310.00	16.50	401.00	10.10	364.00	12.80	368.00	12.00	343.00	16.90	350.00	13.60	310.00	17.80	370.00	13.40
325.00	17.40	427.00	8.80	408.00	9.70	400.00	9.80	356.00	13.20	395.00	9.60	325.00	19.40	401.00	9.60
343.00	16.80	451.00	6.70	427.00	7.90	451.00	7.70	401.00	10.10	451.00	7.80	355.00	12.80	440.00	7.30
365.00	12.60	477.00	5.80	452.00	7.20	502.00	7.30	451.00	7.70	472.00	8.00	431.00	7.20	451.00	7.60
376.00	11.90	502.00	4.10	477.00	7.00	527.00	3.80	502.00	8.00	502.00	6.70	451.00	6.40	500.00	6.00
401.00	10.70	527.00	4.70	553.00	1.50	552.00	1.50	527.00	5.80	520.00	7.20	491.00	5.90	526.00	6.80
427.00	8.80	538.00	4.60	578.00	.40	577.00	-.40	553.00	3.30	552.00	3.10	551.00	2.20	551.00	4.80
452.00	7.90	553.00	2.90	602.00	-1.00	603.00	-1.40	578.00	.80	578.00	1.00	577.00	.60	577.00	2.10
477.00	7.80	579.00	.90	628.00	-2.00	618.00	-2.10	603.00	-2.00	603.00	-1.30	601.00	-.30	602.00	.20
502.00	6.10	603.00	0.00							628.00	-2.90			627.00	-.70
528.00	4.90	629.00	-1.10											652.00	-2.80
578.00	0.00	653.00	-2.80												
629.00	-2.00														

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 11

DATE	660922	DATE	670116	DATE	670505	DATE	670920	DATE	671218	DATE	680117	DATE	680227	DATE	680327
SRVY	50	SRVY	51	SRVY	52	SRVY	54	SRVY	55	SRVY	56	SRVY	57	SRVY	58
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
342.00	17.30	342.00	18.00	308.00	16.70	340.00	18.50	325.00	18.80	325.00	19.00	325.00	18.80	325.00	18.90
369.00	12.70	371.00	12.50	330.00	18.80	368.00	12.70	349.00	18.00	347.00	18.70	344.00	17.80	345.00	17.60
400.00	9.10	401.00	9.50	344.00	17.50	376.00	11.50	369.00	15.80	386.00	11.10	365.00	14.90	365.00	10.90
426.00	7.40	425.00	8.20	358.00	12.70	402.00	9.70	394.00	10.50	397.00	9.90	389.00	10.70	450.00	7.20
451.00	8.10	450.00	8.20	380.00	10.80	450.00	6.50	425.00	8.50	449.00	6.70	429.00	6.40	500.00	4.10
469.00	8.00	501.00	6.70	400.00	9.60	476.00	7.10	451.00	7.80	488.00	5.70	450.00	7.70	520.00	2.40
494.00	5.60	527.00	4.10	451.00	6.90	501.00	5.80	475.00	6.70	507.00	3.40	500.00	4.90	550.00	-1.30
506.00	4.90	576.00	0.00	496.00	5.80	526.00	4.20	501.00	6.00	550.00	-.70	525.00	3.30	575.00	-3.60
526.00	4.20			527.00	3.10	551.00	.80	526.00	5.10	569.00	-1.80	550.00	1.30		
551.00	2.80			552.00	1.20	576.00	-2.50	551.00	3.30			575.00	-.80		
577.00	1.30			577.00	-1.10			617.00	-2.70			600.00	-1.70		
601.00	-.80			601.00	-2.80										

PROFILE 11

DATE	681009	DATE	681023	DATE	681113	DATE	681218	DATE	690115	DATE	690215	DATE	690304	DATE	690528
SRVY	59	SRVY	60	SRVY	61	SRVY	62	SRVY	63	SRVY	64	SRVY	65	SRVY	66
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
325.00	19.00	325.00	19.20	325.00	19.30	325.00	19.30	325.00	19.30	325.00	19.10	325.00	[illegible]	325.00	19.10
345.00	18.00	345.00	18.30	350.00	17.80	350.00	17.80	350.00	17.70	350.00	17.70	350.00	17.90	345.00	[illegible]
365.00	15.70	365.00	15.50	367.00	15.10	367.00	14.50	367.00	14.90	366.00	14.40	360.00	15.00	365.00	15.10
393.00	10.00	393.00	11.10	390.00	10.00	390.00	10.00	378.00	13.20	391.00	9.60	380.00	11.10	390.00	13.70
400.00	9.80	400.00	10.00	450.00	5.40	400.00	8.90	390.00	9.90	425.00	8.20	400.00	10.00	400.00	9.40
425.00	8.60	440.00	8.10	500.00	4.30	450.00	6.50	425.00	7.70	450.00	8.30	425.00	7.70	450.00	4.60
450.00	8.20	495.00	9.50	535.00	3.60	500.00	5.20	450.00	7.80	475.00	7.40	450.00	6.10	500.00	5.50
495.00	8.90	515.00	7.20	550.00	2.20	550.00	4.00	475.00	6.70	500.00	6.40	500.00	3.40	550.00	-.70
500.00	5.60	516.00	6.20	580.00	-.80	575.00	2.30	500.00	5.70	525.00	3.90	550.00	.40	600.00	[illegible]
525.00	2.90	525.00	5.30			600.00	.10	525.00	3.90	550.00	2.20	590.00	-2.60	650.00	[illegible]
550.00	1.30	550.00	3.50					550.00	1.30	575.00	-.70				
575.00	-.40	575.00	1.70					575.00	-1.00	600.00	-2.30				
600.00	-2.40	600.00	-.20												
		625.00	-1.30												

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 11

DATE 690928		DATE 691020		DATE 691118		DATE 691218		DATE 700120		DATE 700216		DATE 700319		DATE 700521	
SRVY	67	SRVY	68	SRVY	69	SRVY	70	SRVY	71	SRVY	72	SRVY	73	SRVY	74
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
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325.00	19.70	325.00	19.10	325.00	19.20	325.00	19.30	325.00	19.40	325.00	19.40	325.00	19.60	347.00	19.60
327.00	19.50	335.00	19.30	340.00	19.00	337.00	19.30	338.00	19.30	343.00	19.10	343.00	19.00	376.00	14.60
349.00	18.60	355.00	16.60	375.00	14.30	366.00	15.80	367.00	15.30	367.00	15.50	366.00	15.40	400.00	9.80
375.00	13.20	389.00	11.10	388.00	11.10	375.00	14.00	376.00	14.00	390.00	11.10	396.00	10.30	424.00	8.40
392.00	10.40	400.00	10.00	400.00	10.20	393.00	10.60	392.00	10.70	400.00	10.10	450.00	8.10	468.00	8.60
420.00	9.30	425.00	9.40	418.00	9.70	425.00	8.90	437.00	7.20	450.00	7.70	482.00	8.10	500.00	4.40
456.00	9.50	450.00	9.50	437.00	7.40	440.00	8.00	465.00	7.20	500.00	5.70	500.00	6.50	550.00	-2.00
475.00	6.30	464.00	9.60	450.00	6.50	467.00	7.20	487.00	5.90	550.00	1.70	550.00	1.90		
500.00	3.60	475.00	8.30	475.00	5.50	475.00	6.30	513.00	5.30	590.00	-.80	600.00	-1.50		
525.00	1.80	500.00	5.30	500.00	5.00	500.00	4.80	550.00	1.70			635.00	-2.00		
550.00	0.00	525.00	1.90	525.00	4.00	531.00	4.90	600.00	-2.40						
575.00	-1.80	550.00	-1.20	550.00	2.60	550.00	2.40	617.00	-3.70						
600.00	-4.10	575.00	-2.50	575.00	.10	600.00	0.00								
		600.00	-3.40	600.00	-2.30	650.00	-2.10								
						695.00	-3.70								

PROFILE 11

DATE 700828		DATE 701012		DATE 701207		DATE 701218		DATE 710112		DATE 710208		DATE 710308		DATE 710418	
SRVY	75	SRVY	76	SRVY	77	SRVY	78	SRVY	79	SRVY	80	SRVY	81	SRVY	82
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
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325.00	19.60	325.00	19.50	325.00	19.50	325.00	19.70	325.00	19.80	325.00	19.70	325.00	19.50	325.00	19.60
338.00	19.70	335.00	19.40	350.00	18.40	330.00	20.00	335.00	20.20	344.00	19.00	350.00	18.60	347.00	19.20
371.00	14.70	368.00	15.00	400.00	10.40	350.00	18.40	350.00	18.50	368.00	15.30	375.00	15.10	375.00	15.30
377.00	13.70	374.00	14.60	450.00	8.00	375.00	14.80	375.00	14.40	400.00	10.10	400.00	9.90	400.00	15.00
400.00	11.00	400.00	9.90	500.00	4.10	400.00	10.80	400.00	10.50	450.00	6.60	425.00	7.80	450.00	6.00
450.00	9.80	450.00	8.70	550.00	-2.00	406.00	10.10	437.00	6.60	500.00	2.80	466.00	5.30	500.00	4.10
492.00	7.90	498.00	7.70			425.00	7.40	450.00	6.00	550.00	-.30	500.00	5.70	550.00	-.40
500.00	6.50	525.00	3.00			450.00	5.20	478.00	6.40	588.00	-3.30	516.00	5.90	575.00	-2.90
550.00	0.00	550.00	.90			466.00	4.20	500.00	4.40			525.00	4.90		
567.00	-2.00	600.00	-1.10			475.00	4.70	550.00	-.10			550.00	2.10		
578.00	-3.00	650.00	-1.60			500.00	4.20	575.00	-2.10			575.00	-.30		
600.00	-3.80	700.00	-2.70			525.00	2.40					600.00	-2.90		
650.00	-4.10					550.00	.90								
700.00	-3.40					575.00	-.40								
750.00	-3.40														
800.00	-5.20														

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 11

DATE	710624	DATE	710817	DATE	711007	DATE	711214	DATE	720112	DATE	720215	DATE	720223	DATE	720315
SRVY	83	SRVY	85	SRVY	86	SRVY	87	SRVY	88	SRVY	89	SRVY	90	SRVY	91
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
325.00	19.60	325.00	19.40	325.00	19.60	325.00	19.50	325.00	19.70	325.00	19.80	325.00	19.80	325.00	19.70
350.00	18.50	339.00	19.80	338.00	19.90	350.00	19.10	340.00	19.80	346.00	19.70	340.00	19.80	329.00	20.20
400.00	10.00	371.00	15.00	417.00	8.90	390.00	13.20	367.00	16.00	369.00	16.90	362.00	17.10	361.00	17.20
450.00	8.60	400.00	10.40	456.00	9.60	403.00	10.20	378.00	14.80	410.00	10.50	398.00	14.00	379.00	16.20
460.00	7.30	427.00	6.50	500.00	3.90	450.00	8.90	391.00	13.00	425.00	9.30	400.00	10.60	394.00	12.90
500.00	3.10	467.00	8.70	550.00	-1.50	467.00	9.00	400.00	10.40	450.00	8.10	419.00	8.00	407.00	8.90
550.00	-3.20	472.00	6.80	600.00	-2.10	485.00	5.50	409.00	9.30	500.00	4.20	450.00	6.40	450.00	7.40
		500.00	3.30			500.00	4.10	450.00	9.10	550.00	1.20	484.00	5.20	500.00	3.00
		550.00	1.50			550.00	-.10	458.00	9.10	600.00	-3.80	495.00	4.20	550.00	-2.00
		600.00	-2.70			582.00	-3.90	461.00	8.30			532.00	2.70		
								500.00	4.70			550.00	.70		
								550.00	-.30			575.00	-2.30		
								575.00	-3.30						

PROFILE 11

DATE	720411	DATE	720823	DATE	721017	DATE	721205	DATE	730103	DATE	730213	DATE	730314	DATE	730325
SRVY	92	SRVY	93	SRVY	94	SRVY	95	SRVY	96	SRVY	97	SRVY	98	SRVY	99
TIME	1200	TIME	1300	TIME	1000	TIME	1100	TIME	1100	TIME	1100	TIME	1000	TIME	800
325.00	19.60	325.00	19.70	325.00	20.00	325.00	19.90	325.00	19.80	325.00	19.80	325.00	19.70	325.00	19.90
340.00	19.80	336.00	20.10	345.00	19.70	350.00	18.90	340.00	19.80	339.00	20.30	355.00	17.60	331.00	20.30
358.00	17.40	375.00	16.50	356.00	18.30	375.00	16.40	375.00	16.30	357.00	17.40	374.00	16.60	350.00	19.30
364.00	17.50	390.00	13.60	373.00	16.70	390.00	12.30	400.00	11.40	375.00	16.30	400.00	11.50	375.00	16.40
389.00	13.50	400.00	9.40	395.00	12.50	400.00	10.20	425.00	10.20	394.00	12.70	450.00	7.00	368.00	14.10
400.00	10.60	450.00	8.30	400.00	10.20	450.00	10.50	450.00	8.00	400.00	10.90	493.00	5.00	395.00	11.80
422.00	8.70	469.00	8.50	450.00	9.60	458.00	10.20	492.00	6.60	450.00	5.90	525.00	2.00	400.00	11.10
430.00	7.60	500.00	4.80	472.00	9.20	475.00	7.40	500.00	5.90	500.00	2.60	550.00	-2.10	450.00	6.00
450.00	4.80	550.00	-.70	500.00	6.70	500.00	3.60	525.00	3.70	550.00	-.90	575.00	-4.10	500.00	1.40
500.00	-.70	600.00	-2.20	525.00	2.60	550.00	-.20	550.00	.80	585.00	-2.80			541.00	-2.80
525.00	-2.70			550.00	-1.20	578.00	-2.20	575.00	-2.10						
				561.00	-2.70										

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 11

DATE	730403	DATE	730417	DATE	730612
SRVY	100	SRVY	101	SRVY	103
TIME	1100	TIME	1300	TIME	1100
325.00	19.50	325.00	19.40	325.00	19.50
329.00	20.40	335.00	20.30	350.00	19.30
338.00	20.10	364.00	16.30	364.00	17.30
381.00	15.30	390.00	14.00	391.00	14.20
390.00	14.00	400.00	11.40	400.00	11.50
398.00	11.60	450.00	7.90	445.00	8.70
432.00	8.80	490.00	4.70	464.00	7.00
450.00	7.00	525.00	.60	487.00	7.10
475.00	4.90	550.00	-2.50	500.00	5.30
500.00	1.90			525.00	1.80
550.00	-3.10			550.00	-2.10

PROFILE 12

DATE	620926	DATE	620928	DATE	621011	DATE	621023	DATE	621029	DATE	621108	DATE	621210	DATE	630115
SRVY	1	SRVY	2	SRVY	4	SRVY	5	SRVY	6	SRVY	7	SRVY	8	SRVY	9
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
16.00	15.50	105.00	7.20	47.00	16.90	13.00	15.20	41.00	16.80	28.00	16.10	31.00	17.90	-1.00	14.80
34.00	15.90	123.00	6.60	72.00	14.50	30.00	15.80	63.00	15.30	33.00	17.50	69.00	14.20	38.00	17.20
44.00	14.90	162.00	7.10	99.00	8.70	45.00	16.90	97.00	8.40	65.00	15.10	89.00	9.90	64.00	14.20
72.00	14.00	186.00	4.30	125.00	6.80	66.00	15.40	124.00	6.70	96.00	8.50	128.00	6.70	100.00	9.00
85.00	11.20	240.00	0.00	179.00	7.80	100.00	8.50	182.00	8.20	122.00	7.40	163.00	5.70	131.00	10.00
105.00	7.90	267.00	-.70	200.00	4.40	125.00	6.60	214.00	4.40	166.00	5.40	214.00	-1.80	132.00	9.50
132.00	6.40	286.00	-1.80	227.00	2.10	158.00	7.60	262.00	.80	195.00	5.90	284.00	-2.60	154.00	9.30
150.00	6.90			245.00	.50	183.00	8.30	301.00	-1.30	226.00	2.80			156.00	9.60
175.00	7.30					207.00	5.60	347.00	-1.70	253.00	-.50			175.00	8.40
195.00	5.00					229.00	2.80							200.00	7.60
220.00	2.70					262.00	-1.80							226.00	7.00
245.00	-.10													276.00	4.80
265.00	-1.70													301.00	3.50
285.00	-1.90													326.00	1.00
300.00	-2.00													366.00	-1.70
320.00	-2.00														

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 12

DATE	630121	DATE	630128	DATE	630204	DATE	630212	DATE	630220	DATE	630226	DATE	630304	DATE	630311
SRVY	10	SRVY	11	SRVY	12	SRVY	13	SRVY	14	SRVY	15	SRVY	16	SRVY	17
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
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226.00	7.00	211.00	7.30	150.00	9.40	100.00	9.00	150.00	9.20	159.00	9.30	158.00	9.40	201.00	7.40
251.00	6.20	250.00	4.30	175.00	8.60	125.00	9.70	156.00	9.00	175.00	8.20	175.00	8.10	222.00	4.70
300.00	2.70	278.00	3.30	200.00	7.50	151.00	9.30	205.00	7.00	203.00	7.40	201.00	7.60	251.00	4.60
326.00	0.00	300.00	1.90	250.00	4.30	180.00	8.30	250.00	2.90	211.00	7.00	212.00	6.90	301.00	.40
351.00	-1.60	328.00	0.00	300.00	.40	225.00	6.00	297.00	-.50	214.00	5.20	214.00	5.30	325.00	-.80
		351.00	-1.20	326.00	-.50	247.00	6.30	325.00	-1.70	250.00	1.60	225.00	4.40	351.00	-1.70
						275.00	1.60			301.00	-.20	251.00	3.40		
						326.00	-.80			325.00	-1.80	276.00	2.80		
												301.00	1.20		
												326.00	.70		
												351.00	-1.70		

PROFILE 12

DATE	630319	DATE	630326	DATE	630404	DATE	630528	DATE	630613	DATE	630625	DATE	630711	DATE	630723
SRVY	18	SRVY	19	SRVY	20	SRVY	21	SRVY	22	SRVY	23	SRVY	24	SRVY	25
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
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200.00	7.40	205.00	7.00	205.00	7.00	-1.00	14.50	225.00	7.30	74.00	13.60	151.00	9.00	100.00	16.00
225.00	5.80	225.00	5.20	251.00	3.10	24.00	16.90	250.00	6.30	100.00	10.30	174.00	7.80	150.00	9.00
251.00	2.80	251.00	5.50	302.00	.20	50.00	16.40	275.00	4.20	151.00	9.10	200.00	7.90	174.00	8.10
279.00	.80	261.00	5.50	326.00	-.90	75.00	13.60	301.00	.80	201.00	7.30	224.00	6.30	200.00	8.30
301.00	-1.20	276.00	4.70			100.00	10.30	320.00	-.10	227.00	7.30	275.00	-.20	225.00	4.40
		300.00	1.80			125.00	9.40	351.00	-1.60	251.00	5.90	301.00	-1.50	250.00	1.90
		326.00	.80			151.00	9.20			301.00	-.80			275.00	.10
		351.00	-1.10			200.00	7.30							301.00	-1.10
						226.00	7.30								
						251.00	5.70								
						300.00	1.50								
						351.00	-1.40								

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 12

DATE	630806	DATE	630820	DATE	630906	DATE	630926	DATE	631010	DATE	631025	DATE	631115	DATE	631227
SRVY	26	SRVY	27	SRVY	28	SRVY	29	SRVY	30	SRVY	31	SRVY	32	SRVY	33
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
100.00	10.00	150.00	9.10	100.00	10.00	-9.00	14.00	126.00	9.00	126.00	9.30	125.00	9.30	0.00	19.40
150.00	8.90	178.00	8.50	124.00	9.10	25.00	17.20	151.00	6.60	151.00	7.50	152.00	9.00	51.00	16.80
175.00	9.30	201.00	7.80	151.00	8.60	51.00	16.00	174.00	7.20	176.00	7.60	202.00	7.00	102.00	13.00
201.00	9.30	225.00	3.50	176.00	5.50	100.00	9.90	182.00	7.30	202.00	8.00	227.00	4.60	126.00	9.00
225.00	5.80	276.00	-1.40	203.00	4.20	127.00	9.30	186.00	5.30	226.00	5.90	253.00	2.30	151.00	6.50
250.00	4.50					177.00	6.40	200.00	3.80	253.00	5.50	277.00	-.30	177.00	6.20
275.00	.80					202.00	6.30	227.00	1.90	278.00	.40	303.00	-2.00	212.00	5.80
301.00	-2.00					227.00	5.10	253.00	-.50	303.00	-.90			252.00	2.60
						253.00	2.50	262.00	-1.10					280.00	1.70
						278.00	.50							304.00	1.30
						303.00	-.90							328.00	.50
														379.00	-2.40

PROFILE 12

DATE	640115	DATE	640212	DATE	640310	DATE	640407	DATE	640525	DATE	640623	DATE	640829	DATE	640924
SRVY	34	SRVY	35	SRVY	36	SRVY	37	SRVY	38	SRVY	39	SRVY	40	SRVY	41
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
-1.00	19.20	31.00	18.30	-1.00	18.70	0.00	14.50	0.00	14.40	0.00	14.70	30.00	18.50	-1.00	14.90
31.00	18.30	48.00	17.10	32.00	18.90	34.00	18.50	25.00	17.60	32.00	18.50	44.00	18.70	30.00	14.40
46.00	17.30	75.00	13.90	47.00	18.10	48.00	18.20	51.00	18.50	49.00	18.70	74.00	12.90	38.00	16.90
100.00	9.60	101.00	9.90	69.00	14.30	102.00	9.90	86.00	18.70	102.00	9.60	100.00	9.30	48.00	14.90
152.00	4.80	126.00	7.10	101.00	9.60	128.00	7.70	76.00	13.10	129.00	7.90	126.00	7.70	100.00	9.80
202.00	2.10	152.00	6.80	125.00	7.60	152.00	7.40	102.00	9.20	153.00	7.40	151.00	7.80	127.00	9.00
227.00	1.80	162.00	6.60	201.00	5.80	177.00	6.80	127.00	7.60	177.00	8.30	176.00	7.20	178.00	9.80
278.00	-.20	202.00	3.40	228.00	3.50	222.00	7.40	152.00	7.00	200.00	8.10	202.00	5.90	199.00	9.30
303.00	-1.60	253.00	1.40	253.00	2.10	253.00	5.50	203.00	7.70	228.00	4.80	227.00	7.70	209.00	7.80
329.00	-3.40	278.00	.20	303.00	.90	278.00	2.40	214.00	6.70	278.00	-1.60	240.00	7.90	252.00	3.20
		303.00	-1.80	330.00	-.50	354.00	-1.60	217.00	4.70			252.00	5.60	281.00	1.50
				354.00	-1.50	364.00	-2.80	278.00	-2.70			278.00	2.40	303.00	0.00
												303.00	0.00	327.00	-1.80
												327.00	-2.10		

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 12

DATE	641201	DATE	650119	DATE	650427	DATE	650907	DATE	651027	DATE	651222	DATE	660125	DATE	660321
SRVY	42	SRVY	43	SRVY	44	SRVY	45	SRVY	46	SRVY	47	SRVY	48	SRVY	49
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
-1.00	19.90	92.00	10.50	47.00	19.80	50.00	18.90	47.00	20.00	55.00	17.90	-1.00	14.70	80.00	12.40
35.00	18.90	112.00	9.40	76.00	13.40	91.00	10.20	74.00	13.30	75.00	13.70	34.00	20.20	100.00	10.20
48.00	18.80	152.00	6.00	102.00	9.80	102.00	9.70	101.00	9.50	101.00	9.70	55.00	20.00	151.00	7.70
101.00	9.80	177.00	4.40	126.00	7.90	144.00	7.70	152.00	7.40	152.00	7.40	75.00	13.40	200.00	6.90
126.00	9.00	202.00	4.00	151.00	8.30	167.00	6.00	167.00	6.10	202.00	7.80	101.00	10.50	229.00	6.90
177.00	9.60	227.00	4.00	177.00	8.00	202.00	7.00	202.00	8.00	247.00	7.10	151.00	7.90	251.00	4.70
202.00	7.70	303.00	.80	202.00	6.80	227.00	7.40	214.00	8.00	277.00	5.10	201.00	7.30	302.00	1.80
227.00	6.70	328.00	-.20	229.00	3.80	252.00	3.90	226.00	5.80	303.00	3.20	251.00	5.40	327.00	-.30
278.00	2.00	353.00	-1.70	252.00	1.50	278.00	.90	278.00	1.50	328.00	.60	276.00	5.40	352.00	-1.90
303.00	.70			275.00	-.10	303.00	-.50	328.00	-.90	353.00	-1.80	302.00	1.80		
328.00	-1.90			303.00	-1.70	329.00	-1.50	353.00	-2.50	404.00	-3.20	327.00	.30		

PROFILE 12

DATE	660922	DATE	670116	DATE	670505	DATE	670920	DATE	671218	DATE	680117	DATE	680227	DATE	680327
SRVY	50	SRVY	51	SRVY	52	SRVY	53	SRVY	55	SRVY	56	SRVY	57	SRVY	58
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
150.00	7.80	58.00	20.90	39.00	20.30	44.00	20.50	35.00	20.00	54.00	20.90	0.00	15.60	37.00	20.40
221.00	8.70	70.00	16.70	55.00	19.60	73.00	14.90	54.00	20.80	75.00	13.80	30.00	21.40	57.00	20.90
251.00	6.30	100.00	10.70	70.00	16.60	95.00	10.80	80.00	13.00	100.00	10.60	55.00	21.00	86.00	13.60
277.00	3.30	126.00	8.70	95.00	11.20	151.00	8.40	100.00	10.50	151.00	8.90	81.00	12.90	100.00	10.50
302.00	1.70	151.00	8.40	151.00	8.90	201.00	8.30	151.00	8.90	200.00	7.90	100.00	10.40	150.00	6.50
327.00	-.20	200.00	7.90	200.00	8.10	226.00	7.30	251.00	5.10	228.00	6.30	150.00	8.90	199.00	7.50
351.00	-1.50	227.00	7.50	251.00	7.70	251.00	6.80	301.00	1.00	300.00	.30	190.00	8.10	240.00	5.90
		262.00	6.30	301.00	3.80	301.00	2.10	342.00	-2.00	350.00	-3.00	240.00	6.70	300.00	.30
		276.00	5.30	326.00	1.80	325.00	0.00					250.00	6.10	350.00	-2.90
		302.00	2.60	351.00	-.60	352.00	-2.10					300.00	5.20	370.00	-5.00
		327.00	.50	377.00	-2.30							350.00	-.40		
		352.00	-2.20									375.00	-2.70		

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 12

DATE	681009	DATE	681023	DATE	681113	DATE	681218	DATE	690115	DATE	690213	DATE	690308	DATE	690528
SRVY	59	SRVY	60	SRVY	61	SRVY	62	SRVY	63	SRVY	64	SRVY	65	SRVY	66
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
30.00	20.80	30.00	21.00	25.00	20.20	45.00	20.70	35.00	21.10	35.00	21.30	58.00	19.90	37.00	22.10
55.00	21.10	55.00	21.20	55.00	21.00	60.00	20.00	58.00	20.50	58.00	20.70	76.00	15.90	57.00	20.40
75.00	17.00	75.00	15.30	75.00	14.90	70.00	17.70	70.00	17.90	83.00	14.00	87.00	13.00	75.00	14.30
95.00	11.00	95.00	11.30	100.00	11.20	80.00	14.20	80.00	14.00	100.00	11.40	100.00	11.20	100.00	11.00
150.00	8.60	150.00	9.00	150.00	7.60	100.00	11.20	100.00	11.20	150.00	8.00	125.00	9.60	150.00	8.90
200.00	8.70	200.00	9.00	200.00	6.60	150.00	7.80	150.00	7.70	200.00	7.30	150.00	8.70	200.00	6.40
230.00	7.80	230.00	8.80	250.00	6.40	200.00	6.40	200.00	7.40	250.00	6.90	175.00	7.00	250.00	.20
250.00	5.50	250.00	7.60	300.00	3.30	250.00	5.00	240.00	6.30	275.00	4.60	200.00	6.50	275.00	-1.70
275.00	3.50	275.00	5.50	350.00	-.10	275.00	4.10	275.00	4.40	300.00	2.80	231.00	7.10	265.00	-3.70
300.00	2.00	300.00	3.70			300.00	2.10	300.00	2.40	325.00	1.40	250.00	5.20		
325.00	-.70	325.00	1.90			325.00	0.00	325.00	.10	350.00	-.60	300.00	2.30		
350.00	-2.50	350.00	.50			350.00	-1.80	350.00	-1.60	375.00	-2.40	350.00	-.80		
						375.00	-3.00	375.00	-2.40						

PROFILE 12

DATE	690924	DATE	691020	DATE	691118	DATE	691218	DATE	700120	DATE	700216	DATE	700319	DATE	700521
SRVY	67	SRVY	68	SRVY	69	SRVY	70	SRVY	71	SRVY	72	SRVY	73	SRVY	74
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
25.00	19.50	0.00	15.10	40.00	20.50	0.00	15.20	0.00	15.20	33.00	20.00	39.00	20.70	41.00	20.40
50.00	20.00	41.00	20.60	49.00	20.20	35.00	20.50	8.00	17.70	60.00	19.70	47.00	20.00	45.00	12.80
75.00	15.40	48.00	20.20	100.00	11.80	45.00	20.60	38.00	20.60	80.00	15.70	81.00	15.00	150.00	4.50
100.00	11.40	96.00	12.00	124.00	9.70	100.00	12.00	47.00	20.50	100.00	12.40	100.00	12.10	200.00	8.00
125.00	9.50	125.00	9.60	150.00	9.50	119.00	9.80	100.00	12.20	150.00	9.70	117.00	10.10	254.00	7.70
144.00	9.50	150.00	9.50	175.00	9.70	150.00	9.50	113.00	10.60	200.00	8.80	150.00	9.50	300.00	1.50
184.00	9.80	175.00	9.70	200.00	8.50	186.00	9.60	132.00	9.70	250.00	3.80	200.00	9.10	330.00	-2.10
200.00	9.10	200.00	7.80	225.00	7.50	200.00	9.10	150.00	9.70	300.00	3.00	246.00	6.40		
225.00	4.90	234.00	8.60	250.00	6.40	229.00	7.90	178.00	9.50	350.00	-.20	273.00	2.40		
250.00	3.10	241.00	7.00	290.00	4.40	245.00	6.30	200.00	7.70	375.00	-1.70	300.00	0.00		
275.00	1.80	250.00	6.50	300.00	3.30	271.00	6.20	232.00	6.40			315.00	-1.40		
300.00	.50	275.00	4.50	325.00	.10	300.00	3.10	255.00	6.40						
315.00	0.00	300.00	2.10	350.00	-1.50	325.00	.10	300.00	3.30						
325.00	-.50	325.00	-.10	360.00	-2.10	350.00	-2.20	350.00	-.40						
350.00	-1.50	350.00	-1.20			373.00	-3.60	384.00	-3.80						
375.00	-3.10	358.00	-2.10												
400.00	-3.90	369.00	-.90												
		375.00	-.90												
		400.00	-1.00												
		425.00	-1.40												
		450.00	-2.10												

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 12

DATE	700828	DATE	701012	DATE	701207	DATE	701218	DATE	710112	DATE	710208	DATE	710308	DATE	710408
SRVY	75	SRVY	76	SRVY	77	SRVY	78	SRVY	79	SRVY	80	SRVY	81	SRVY	82
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
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0.00	15.30	45.00	20.60	0.00	15.00	0.00	15.30	0.00	15.50	0.00	15.30	0.00	15.10	35.00	20.40
42.00	20.80	110.00	11.00	50.00	20.30	25.00	19.90	25.00	19.70	36.00	20.60	40.00	20.70	55.00	19.90
100.00	12.40	150.00	9.30	100.00	12.60	42.00	20.90	44.00	20.70	48.00	20.40	80.00	16.30	80.00	16.80
150.00	9.40	200.00	7.90	150.00	9.40	50.00	20.40	69.00	17.60	73.00	17.60	100.00	12.50	100.00	12.60
200.00	7.80	250.00	8.80	250.00	9.80	75.00	17.20	109.00	11.00	100.00	12.50	113.00	10.70	110.00	11.50
247.00	7.80	275.00	3.90	300.00	9.10	100.00	12.80	150.00	9.60	112.00	10.80	125.00	9.40	150.00	6.40
250.00	7.40	300.00	1.50	320.00	8.90	125.00	10.20	200.00	7.00	150.00	9.60	154.00	9.10	200.00	7.40
300.00	.80	350.00	-1.50	450.00	4.80	150.00	9.50	234.00	6.90	169.00	9.00	170.00	5.90	250.00	5.40
335.00	-3.00	375.00	-2.80	500.00	-.50	175.00	9.40	250.00	4.40	200.00	5.40	245.00	5.30	275.00	3.40
342.00	-2.50			550.00	-1.60	185.00	9.30	300.00	-.70	250.00	2.50	275.00	2.30	300.00	.40
400.00	-2.60					200.00	8.50	325.00	-2.60	300.00	-.90	300.00	.30	350.00	-3.60
450.00	-2.60					225.00	6.20			325.00	-2.50	325.00	-1.70		
500.00	-3.10					250.00	5.40					340.00	-2.40		
550.00	-4.60					275.00	4.60								
						300.00	1.70								
						325.00	-.20								

PROFILE 12

DATE	710624	DATE	710817	DATE	711007	DATE	711219	DATE	720112	DATE	720215	DATE	720223	DATE	720315
SRVY	83	SRVY	85	SRVY	86	SRVY	87	SRVY	88	SRVY	89	SRVY	90	SRVY	91
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
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0.00	15.70	0.00	15.90	0.00	15.40	0.00	15.70	0.00	15.70	0.00	15.70	0.00	15.60	0.00	15.40
43.00	20.80	44.00	21.00	42.00	20.90	44.00	19.90	36.00	20.90	43.00	20.90	43.00	20.80	45.00	20.80
61.00	18.90	100.00	12.60	50.00	20.60	112.00	10.60	46.00	20.70	92.00	15.00	72.00	16.30	94.00	15.40
100.00	12.80	150.00	8.90	115.00	11.10	150.00	9.00	100.00	13.20	100.00	13.20	100.00	13.40	118.00	11.00
150.00	8.20	200.00	8.90	150.00	8.90	200.00	8.80	116.00	11.00	119.00	10.70	120.00	10.80	150.00	6.20
200.00	8.40	237.00	7.60	200.00	8.70	238.00	9.00	150.00	9.10	150.00	9.20	150.00	6.20	200.00	7.10
228.00	6.30	276.00	4.40	232.00	9.30	250.00	7.00	200.00	9.20	200.00	6.70	200.00	6.10	217.00	7.10
250.00	4.50	300.00	1.30	250.00	7.50	300.00	2.20	225.00	6.70	213.00	6.40	250.00	4.10	250.00	4.50
300.00	-2.40	325.00	-1.40	275.00	3.90	350.00	-3.20	250.00	4.10	250.00	4.40	270.00	3.30	300.00	0.00
		350.00	-1.40	300.00	.60			275.00	1.60	300.00	.90	300.00	.60	317.00	-2.00
		400.00	-2.20	350.00	-2.50			300.00	-1.00	350.00	-3.60	325.00	-2.70		
								315.00	-2.50						

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 12

DATE	720411	DATE	720823	DATE	721017	DATE	721205	DATE	730103	DATE	730215	DATE	730322	DATE	730325
SRVY	92	SRVY	93	SRVY	94	SRVY	95	SRVY	96	SRVY	97	SRVY	98	SRVY	99
TIME	1200	TIME	1300	TIME	1000	TIME	1100	TIME	1100	TIME	1100	TIME	1100	TIME	800
----	------	----	------	----	------	----	------	----	------	----	------	----	------	----	------
0.00	14.30	0.00	14.80	0.00	15.00	0.00	15.30	0.00	14.90	0.00	15.30	31.00	21.00	0.00	14.90
43.00	20.70	58.00	20.00	50.00	20.80	42.00	20.50	50.00	20.30	50.00	20.40	52.00	20.20	34.00	20.00
87.00	16.30	100.00	13.70	86.00	17.00	63.00	19.60	100.00	14.00	73.00	18.30	102.00	11.90	61.00	20.40
100.00	13.00	117.00	11.00	100.00	14.30	100.00	14.10	117.00	11.00	100.00	13.70	152.00	8.30	91.00	16.10
127.00	10.00	150.00	9.30	126.00	10.50	128.00	10.50	150.00	9.30	113.00	11.50	186.00	7.40	100.00	15.80
150.00	9.00	185.00	9.70	150.00	9.80	150.00	10.00	174.00	8.10	135.00	10.60	200.00	6.50	108.00	12.30
196.00	8.80	200.00	6.80	200.00	8.90	200.00	9.70	200.00	7.80	150.00	9.00	202.00	5.40	150.00	9.60
200.00	6.50	235.00	6.10	250.00	5.60	215.00	7.70	225.00	4.90	200.00	6.10	235.00	2.30	200.00	6.00
237.00	5.80	250.00	5.00	255.00	4.50	218.00	6.00	250.00	1.80	210.00	5.90	250.00	.40	250.00	1.90
250.00	4.00	300.00	-1.00	275.00	2.00	250.00	3.00	275.00	-.60	250.00	2.70	275.00	-1.80	293.00	-1.60
300.00	-1.60	325.00	-3.00	300.00	-1.00	300.00	0.00	300.00	-2.10	300.00	-.10				
320.00	-2.60			325.00	-2.50	334.00	-1.40			325.00	-1.80				

PROFILE 12

DATE	730403	DATE	730417	DATE	730612
SRVY	100	SRVY	101	SRVY	103
TIME	1200	TIME	1300	TIME	1100
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0.00	14.90	0.00	14.90	0.00	14.90
36.00	21.00	37.00	21.00	37.00	20.90
52.00	20.60	69.00	19.70	60.00	20.00
92.00	15.50	100.00	13.70	100.00	13.90
100.00	13.60	109.00	12.20	150.00	9.40
107.00	12.40	143.00	10.20	160.00	9.10
155.00	10.00	151.00	8.80	169.00	4.60
163.00	9.50	180.00	6.90	200.00	-.20
200.00	4.50	200.00	4.00	225.00	-2.50
250.00	-.50	250.00	-.60		
276.00	-1.70	296.00	-3.40		

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 13

DATE	620926	DATE	620928	DATE	621011	DATE	621023	DATE	621029	DATE	621108	DATE	621210	DATE	630115
SRVY	1	SRVY	2	SRVY	4	SRVY	5	SRVY	6	SRVY	7	SRVY	8	SRVY	9
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
----	------	----	------	----	------	----	------	----	------	----	------	----	------	----	------
35.00	13.40	101.00	8.60	55.00	14.90	22.00	12.90	82.00	13.20	33.00	13.30	41.00	15.20	-1.00	12.00
57.00	14.90	115.00	7.70	78.00	13.40	53.00	14.90	100.00	9.00	39.00	14.70	74.00	14.70	66.00	13.50
65.00	14.20	140.00	7.80	98.00	8.90	75.00	13.80	147.00	8.60	58.00	15.20	97.00	10.10	100.00	13.60
70.00	16.30	171.00	5.40	150.00	8.30	98.00	9.10	178.00	5.70	77.00	13.30	126.00	8.90	129.00	14.90
75.00	16.40	201.00	3.90	184.00	4.90	121.00	8.50	180.00	4.70	117.00	8.10	143.00	9.20	136.00	16.10
80.00	13.30	255.00	1.10	212.00	3.20	143.00	8.70	243.00	-.80	162.00	6.50	231.00	2.30	151.00	14.10
103.00	8.60	270.00	-1.00	236.00	.60	168.00	6.00			189.00	6.70	296.00	-.60	166.00	10.70
123.00	7.80					201.00	3.00			223.00	5.30	360.00	-3.60	174.00	9.60
152.00	7.70					234.00	-.50			255.00	2.00			200.00	7.60
176.00	6.40									273.00	-.20			225.00	6.20
209.00	3.40													250.00	5.80
233.00	1.40													275.00	4.80
235.00	1.10													300.00	1.60
														326.00	1.10
														350.00	.70
														376.00	-.10
														401.00	-1.60

PROFILE 13

DATE	630121	DATE	630128	DATE	630204	DATE	630212	DATE	630220	DATE	630226	DATE	630304	DATE	630311
SRVY	10	SRVY	11	SRVY	12	SRVY	13	SRVY	14	SRVY	15	SRVY	16	SRVY	17
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
----	------	----	------	----	------	----	------	----	------	----	------	----	------	----	------
226.00	6.20	187.00	8.70	165.00	10.80	202.00	7.90	167.00	9.30	276.00	5.80	167.00	9.30	167.00	9.30
249.00	5.30	226.00	6.90	166.00	9.20	226.00	6.90	174.00	8.50	300.00	3.30	175.00	8.00	175.00	8.20
275.00	4.80	251.00	6.30	189.00	9.00	250.00	6.50	201.00	8.10	324.00	1.80	201.00	7.20	200.00	8.00
300.00	2.90	300.00	4.30	190.00	8.50	276.00	6.00	226.00	7.20	352.00	.70	226.00	7.00	227.00	6.90
350.00	1.30	351.00	2.70	200.00	7.80	302.00	5.00	250.00	6.90	401.00	-1.40	251.00	6.40	300.00	2.50
400.00	0.00	374.00	1.20	250.00	6.40	326.00	2.60	277.00	5.90			275.00	3.40	326.00	.70
451.00	-1.00	426.00	-.60	267.00	5.70	376.00	1.50	302.00	3.30			301.00	1.20	376.00	-1.50
				301.00	4.70	401.00	.40	325.00	1.30			325.00	0.00		
				350.00	1.70	451.00	-1.50	351.00	0.00			351.00	-.70		
				376.00	.60			370.00	-.80			376.00	-1.20		
				425.00	-.80										
				450.00	-1.20										

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 13

DATE	630319	DATE	630326	DATE	630404	DATE	630528	DATE	630613	DATE	630625	DATE	630711	DATE	630725
SRVY	18	SRVY	19	SRVY	20	SRVY	21	SRVY	22	SRVY	23	SRVY	24	SRVY	25
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
-1.00	12.00	226.00	6.90	151.00	12.90	0.00	12.10	126.00	8.20	100.00	10.50	100.00	10.60	75.00	14.50
50.00	12.10	252.00	5.40	167.00	9.70	50.00	12.30	151.00	7.30	125.00	8.00	124.00	8.50	100.00	12.10
100.00	12.30	302.00	2.20	226.00	6.90	75.00	14.50	175.00	7.30	151.00	7.30	151.00	7.50	117.00	9.20
124.00	13.40	377.00	-1.30	251.00	5.10	100.00	10.50	225.00	5.60	180.00	7.50	176.00	8.00	149.00	7.50
145.00	13.50			276.00	3.20	124.00	8.30	250.00	2.30	200.00	7.00	201.00	8.00	175.00	7.60
167.00	9.60			301.00	2.20	173.00	6.90	276.00	.80	226.00	4.60	227.00	4.40	251.00	2.90
205.00	8.20			376.00	-1.40	201.00	6.30	302.00	0.00	251.00	1.40	251.00	.20	275.00	1.90
250.00	5.10					250.00	3.20	325.00	-.90	276.00	-1.00	276.00	-1.40	301.00	0.00
275.00	2.20					276.00	1.50	351.00	-1.60					326.00	-.50
301.00	1.90					301.00	.20								
332.00	.50					351.00	-1.50								
352.00	-.60														
376.00	-1.50														

PROFILE 13

DATE	630606	DATE	630820	DATE	630906	DATE	630926	DATE	631010	DATE	631025	DATE	631115	DATE	631227
SRVY	26	SRVY	27	SRVY	28	SRVY	29	SRVY	30	SRVY	31	SRVY	32	SRVY	33
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
25.00	12.20	74.00	14.40	75.00	14.40	25.00	12.10	127.00	7.50	-1.00	12.00	51.00	13.50	0.00	12.00
50.00	13.10	125.00	8.60	101.00	12.10	51.00	13.60	151.00	7.00	26.00	12.10	75.00	13.50	15.00	13.60
75.00	14.50	151.00	7.60	126.00	9.00	76.00	13.90	175.00	7.30	51.00	13.90	101.00	11.00	60.00	17.00
100.00	11.50	178.00	8.20	176.00	5.30	102.00	10.10	196.00	7.80	76.00	14.00	126.00	9.60	78.00	13.70
127.00	8.80	203.00	8.10			127.00	7.50	202.00	5.80	101.00	9.80	151.00	8.90	121.00	6.90
151.00	7.50	227.00	3.80			152.00	6.00	252.00	2.00	126.00	7.50	176.00	9.30	152.00	6.80
177.00	7.80	250.00	1.30			201.00	5.50	276.00	-.40	177.00	8.30	253.00	.60	178.00	6.00
201.00	7.20	301.00	-1.20			228.00	4.50	303.00	-.90	203.00	6.40	278.00	-1.10	202.00	7.60
226.00	5.50					277.00	1.00			226.00	3.90			230.00	5.90
251.00	2.30					303.00	0.00			252.00	1.70			253.00	4.40
276.00	.30					305.00	0.00			279.00	0.00			284.00	2.20
301.00	-1.20									299.00	-.40			302.00	1.40
														328.00	.70
														353.00	-1.00
														364.00	-2.10

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 13

DATE	640115	DATE	640212	DATE	640310	DATE	640407	DATE	640525	DATE	640623	DATE	640829	DATE	640928
SRVY	34	SRVY	35	SRVY	36	SRVY	37	SRVY	38	SRVY	39	SRVY	40	SRVY	41
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
-303.00	8.70	60.00	16.90	14.00	12.60	14.00	12.60	13.00	12.20	15.00	12.20	14.00	12.30	14.00	8.90
-151.00	10.00	75.00	13.10	59.00	17.70	54.00	18.10	25.00	13.40	26.00	14.10	49.00	18.40	50.00	18.50
-126.00	10.00	101.00	9.90	75.00	14.20	61.00	18.20	65.00	18.30	51.00	17.50	61.00	18.40	63.00	18.40
-51.00	11.40	151.00	8.70	101.00	11.00	76.00	14.30	76.00	15.10	60.00	18.20	74.00	14.60	102.00	10.70
0.00	11.90	201.00	5.80	152.00	7.90	101.00	11.00	100.00	11.10	77.00	14.70	101.00	10.90	152.00	8.40
14.00	12.40	227.00	6.70	177.00	6.50	128.00	9.00	126.00	9.00	102.00	11.00	152.00	7.80	179.00	9.30
36.00	15.10	237.00	6.80	202.00	6.90	177.00	7.50	151.00	7.80	127.00	8.90	176.00	6.90	206.00	9.60
59.00	17.20	279.00	3.70	228.00	6.50	203.00	6.30	177.00	7.20	178.00	7.20	202.00	8.00	227.00	9.90
76.00	13.40	303.00	2.00	278.00	2.30	227.00	6.10	201.00	6.90	227.00	8.60	229.00	8.30	253.00	7.50
101.00	10.80	328.00	.70	304.00	1.00	253.00	4.60	227.00	7.40	252.00	5.80	231.00	8.00	279.00	4.50
127.00	8.90	354.00	.70	330.00	0.00	278.00	1.80	252.00	6.60	303.00	1.70	253.00	6.40	353.00	-.60
153.00	7.80	380.00	.10	354.00	-.60	303.00	.10	278.00	4.60	343.00	-2.40	278.00	4.10	380.00	-1.40
202.00	4.60	404.00	-1.00	379.00	-1.60	328.00	-.80	303.00	.70			336.00	-1.70		
227.00	3.60	420.00	-2.20			354.00	-2.10	328.00	-1.20						
252.00	4.00							343.00	-2.10						
277.00	3.20														
303.00	3.10														
343.00	.60														
379.00	-.70														
430.00	-2.80														

PROFILE 13

DATE	641201	DATE	650119	DATE	650427	DATE	650907	DATE	651027	DATE	651222	DATE	660125	DATE	660321
SRVY	42	SRVY	43	SRVY	44	SRVY	45	SRVY	46	SRVY	47	SRVY	48	SRVY	49
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
14.00	11.40	85.00	11.00	62.00	18.60	65.00	19.00	62.00	18.40	66.00	17.90	10.00	12.20	60.00	18.10
50.00	17.80	101.00	11.20	86.00	11.90	108.00	11.80	67.00	17.90	106.00	11.70	32.00	16.20	80.00	16.70
62.00	18.70	129.00	9.10	101.00	10.20	152.00	8.10	101.00	11.80	152.00	7.70	63.00	18.20	100.00	12.10
101.00	11.60	152.00	7.00	151.00	7.80	177.00	6.50	152.00	7.60	202.00	6.50	80.00	18.00	150.00	7.40
126.00	9.20	177.00	5.60	201.00	6.40	203.00	6.20	202.00	6.40	207.00	7.30	96.00	12.80	201.00	6.30
152.00	8.40	202.00	4.90	253.00	6.90	253.00	7.10	253.00	7.40	304.00	4.80	151.00	8.00	251.00	7.10
177.00	9.00	253.00	3.90	303.00	6.00	278.00	7.70	277.00	4.90	354.00	.80	201.00	6.00	276.00	6.10
203.00	9.60	303.00	2.80	353.00	2.90	328.00	3.50	303.00	2.70	378.00	-.40	250.00	5.10	302.00	4.40
215.00	9.50	354.00	1.80	389.00	0.00	354.00	1.50	354.00	.80	404.00	-2.10	301.00	2.80	326.00	1.60
218.00	8.20	379.00	.80	419.00	-2.20	380.00	0.00	381.00	-.40			327.00	2.10	351.00	1.10
226.00	7.20					404.00	-1.70	404.00	-1.20			352.00	1.10	377.00	-.20
278.00	3.30							429.00	-2.10					397.00	-1.80
303.00	.10														

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 15

DATE	660922	DATE	670116	DATE	670505	DATE	670920	DATE	671218	DATE	680117	DATE	680227	DATE	680327
SRVY	50	SRVY	51	SRVY	52	SRVY	54	SRVY	55	SRVY	56	SRVY	57	SRVY	58
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
74.00	18.80	30.00	17.90	37.00	17.30	0.00	16.20	100.00	12.80	100.00	12.60	100.00	12.50	100.00	12.80
88.00	14.60	60.00	18.40	60.00	18.20	15.00	17.00	150.00	8.60	150.00	8.90	151.00	8.80	150.00	8.80
100.00	12.20	80.00	17.40	83.00	17.20	69.00	17.40	201.00	6.60	200.00	6.30	199.00	7.00	199.00	6.70
151.00	8.30	101.00	12.70	104.00	12.30	74.00	13.50	251.00	5.30	250.00	5.10	250.00	4.00	250.00	3.90
201.00	8.50	150.00	8.20	150.00	8.80	115.00	11.30	301.00	2.80	350.00	-.60	350.00	-2.40	300.00	2.80
219.00	8.40	201.00	7.30	201.00	7.10	131.00	8.50	402.00	-2.40	399.00	-3.30			350.00	-.90
250.00	5.50	259.00	6.40	250.00	5.40	162.00	7.30							399.00	-3.90
276.00	4.00	277.00	4.00	301.00	1.90	181.00	5.90								
302.00	3.50	301.00	2.80	326.00	.20	215.00	5.40								
328.00	1.90	327.00	.70	352.00	-1.80	256.00	6.10								
352.00	.50	352.00	-.50			282.00	3.70								
377.00	-.40					332.00	-.20								
403.00	-1.80					357.00	-2.00								

PROFILE 15

DATE	681009	DATE	681023	DATE	681113	DATE	681218	DATE	690115	DATE	690213	DATE	690306	DATE	690528
SRVY	59	SRVY	60	SRVY	61	SRVY	62	SRVY	63	SRVY	64	SRVY	65	SRVY	66
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
150.00	9.30	150.00	9.20	150.00	8.70	150.00	9.00	150.00	8.90	150.00	9.10	150.00	9.80	55.00	18.80
200.00	7.80	200.00	7.80	200.00	5.60	200.00	6.40	200.00	7.60	200.00	8.20	200.00	5.10	75.00	15.00
250.00	7.10	250.00	7.50	250.00	3.60	250.00	6.10	250.00	6.10	250.00	7.10	250.00	2.90	93.00	11.40
277.00	7.60	255.00	7.50	300.00	3.00	300.00	4.50	300.00	3.30	300.00	3.40	300.00	2.60	125.00	9.10
278.00	5.00	257.00	5.50	350.00	1.50	350.00	-.30	350.00	-1.70	350.00	-1.00	350.00	.50	150.00	7.50
300.00	3.60	300.00	1.80	400.00	-1.20	400.00	-4.40	400.00	-4.70	400.00	-3.70	400.00	-1.90	200.00	7.30
350.00	1.10	350.00	-.50											250.00	7.50
														275.00	5.50
														300.00	3.50
														350.00	-1.20
														385.00	-2.40

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 33

DATE	720824	DATE	721017	DATE	721205	DATE	730325	DATE	730403	DATE	730418
SRVY	93	SRVY	94	SRVY	95	SRVY	99	SRVY	100	SRVY	101
TIME	800	TIME	1100	TIME	1100	TIME	800	TIME	1200	TIME	900
35.00	13.10	38.00	14.00	38.00	13.70	40.00	13.60	39.00	13.60	37.00	13.50
72.00	17.40	56.00	14.50	68.00	16.30	70.00	16.50	69.00	16.60	67.00	16.20
100.00	16.80	70.00	16.40	81.00	17.30	82.00	16.90	96.00	17.30	94.00	17.50
105.00	14.20	86.00	17.00	100.00	17.00	100.00	16.80	100.00	17.30	100.00	16.60
142.00	13.00	100.00	17.00	106.00	17.20	104.00	16.50	110.00	13.80	108.00	14.30
145.00	12.00	104.00	16.50	110.00	14.10	109.00	14.50	131.00	12.70	161.00	10.90
200.00	8.30	109.00	14.10	143.00	13.10	150.00	12.20	141.00	13.20	200.00	9.00
250.00	8.00	143.00	13.40	166.00	10.40	200.00	8.60	150.00	11.80	227.00	9.30
277.00	8.40	170.00	10.20	200.00	8.60	250.00	6.40	197.00	8.70	250.00	7.40
290.00	6.80	200.00	8.70	250.00	8.60	300.00	3.40	236.00	9.00	300.00	3.80
300.00	6.30	250.00	8.00	285.00	8.70	350.00	-.70	250.00	7.60	325.00	1.30
350.00	2.20	300.00	5.80	295.00	7.40	375.00	-1.70	300.00	2.30	350.00	-1.40
375.00	.20	316.00	5.60	300.00	5.50			350.00	-1.70		
400.00	-1.10	318.00	4.10	350.00	1.50						
425.00	-2.20	325.00	3.10	400.00	-.70						
		350.00	1.00	445.00	-2.50						
		375.00	-.90								
		400.00	-2.00								

PROFILE 14

DATE	621002	DATE	621011	DATE	621023	DATE	621029	DATE	621108	DATE	621210	DATE	630115	DATE	630121
SRVY	3	SRVY	4	SRVY	5	SRVY	6	SRVY	7	SRVY	8	SRVY	9	SRVY	10
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
122.00	10.30	159.00	15.80	99.00	13.80	152.00	16.30	101.00	13.80	142.00	16.30	0.00	10.80	276.00	5.40
142.00	16.50	197.00	9.40	124.00	9.90	162.00	15.40	111.00	11.10	170.00	13.40	50.00	13.60	299.00	2.60
159.00	15.10	223.00	8.00	142.00	15.90	198.00	9.50	134.00	15.20	190.00	9.80	100.00	13.80	376.00	-2.50
192.00	9.00	250.00	7.40	157.00	15.90	270.00	5.30	142.00	16.10	219.00	9.50	139.00	15.90		
231.00	6.70	271.00	3.70	194.00	9.40	274.00	4.10	154.00	15.70	259.00	7.20	191.00	9.60		
282.00	6.30	300.00	2.60	270.00	5.00	308.00	.80	185.00	10.30	280.00	4.20	226.00	8.80		
316.00	2.20	340.00	-.20	322.00	-.10	342.00	-.60	186.00	9.20	351.00	-2.50	251.00	7.20		
337.00	.20					355.00	-2.70	229.00	5.30	362.00	-3.70	301.00	3.30		
367.00	-2.40							278.00	5.90			330.00	1.20		
								315.00	3.20			353.00	0.00		
								340.00	-.20			376.00	-1.10		

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 14

DATE	630128	DATE	630204	DATE	630212	DATE	630220	DATE	630226	DATE	630304	DATE	630311	DATE	630319
SRVY	11	SRVY	12	SRVY	13	SRVY	14	SRVY	15	SRVY	16	SRVY	17	SRVY	18
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
----	------	----	------	----	------	----	------	----	------	----	------	----	------	----	------
192.00	9.80	181.00	15.70	229.00	8.60	230.00	8.60	235.00	8.00	175.00	11.70	301.00	3.70	250.00	7.20
232.00	8.50	200.00	9.50	250.00	6.40	300.00	3.00	274.00	5.20	200.00	10.10	325.00	2.90	276.00	5.30
251.00	6.00	230.00	8.80	276.00	5.80	325.00	1.50	302.00	4.40	226.00	8.20	351.00	1.70	325.00	1.50
275.00	3.90	250.00	6.50	301.00	4.10	350.00	.70	351.00	1.80	251.00	7.00	374.00	-.60	353.00	.40
300.00	2.80	300.00	2.10	325.00	1.90	376.00	-.50	401.00	-1.10	276.00	5.70	401.00	-1.70	376.00	-.70
352.00	-1.20	326.00	.80	376.00	-1.10	400.00	-2.10			325.00	2.30			401.00	-1.10
		351.00	0.00							352.00	.80				
		376.00	-1.50							376.00	0.00				
										401.00	-1.40				

PROFILE 14

DATE	630326	DATE	630408	DATE	630528	DATE	630613	DATE	630625	DATE	630711	DATE	630723	DATE	630808
SRVY	19	SRVY	20	SRVY	21	SRVY	22	SRVY	23	SRVY	24	SRVY	25	SRVY	26
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
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225.00	8.30	139.00	15.60	-1.00	10.90	241.00	7.80	200.00	9.80	225.00	8.30	201.00	9.80	204.00	9.60
251.00	7.20	161.00	10.70	50.00	12.00	245.00	6.00	223.00	8.30	251.00	7.60	227.00	8.80	226.00	8.00
299.00	3.00	200.00	9.80	99.00	14.50	250.00	5.60	251.00	7.30	275.00	6.50	251.00	5.40	245.00	6.50
325.00	1.50	220.00	7.90	136.00	15.70	275.00	6.20	276.00	5.80	301.00	3.40	276.00	3.30	251.00	6.40
352.00	.90	251.00	6.90	146.00	15.40	286.00	6.20	301.00	3.20	325.00	.30	301.00	2.00	286.00	7.50
380.00	-.10	276.00	5.50	182.00	11.30	326.00	2.10	327.00	1.20	352.00	-.90	326.00	.90	325.00	1.40
		302.00	2.80	200.00	9.70	351.00	-1.60	352.00	-.50			351.00	-.60	377.00	-1.50
		326.00	1.70	241.00	7.60			377.00	-1.70						
		351.00	1.20	256.00	6.70										
		375.00	.10	280.00	4.90										
		401.00	-1.30	301.00	3.20										
				326.00	1.90										
				351.00	-.70										

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 14

DATE	630820	DATE	630906	DATE	630926	DATE	631010	DATE	631025	DATE	631115	DATE	631227	DATE	640115
SRVY	27	SRVY	28	SRVY	29	SRVY	30	SRVY	31	SRVY	32	SRVY	33	SRVY	34
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
200.00	9.90	200.00	9.80	100.00	19.30	228.00	7.00	202.00	10.00	139.00	17.50	101.00	14.30	-302.00	5.10
241.00	9.10	251.00	5.30	137.00	17.50	252.00	6.80	251.00	5.60	151.00	16.50	116.00	14.50	-252.00	5.20
276.00	3.30	276.00	3.60	176.00	11.50	271.00	6.90	278.00	4.20	201.00	9.00	141.00	18.00	-202.00	5.40
301.00	1.10	302.00	2.70	202.00	9.60	274.00	5.60	304.00	2.40	225.00	9.10	177.00	11.80	-151.00	6.10
352.00	-.60	352.00	1.40	227.00	7.00	304.00	2.80	330.00	.90	252.00	7.30	203.00	9.40	-101.00	7.00
382.00	-2.10	377.00	1.40	277.00	4.80	329.00	1.30	354.00	-.60	278.00	4.20	252.00	6.30	-50.00	8.40
		401.00	1.10	304.00	4.30	354.00	-.50			303.00	2.00	278.00	4.30	-25.00	10.00
				330.00	3.30	380.00	-1.10			328.00	-.60	303.00	3.30	0.00	10.90
				379.00	.40					354.00	-1.80	354.00	1.10	51.00	11.80
				404.00	-.40							378.00	-1.00	101.00	14.40
														102.00	14.30
														118.00	14.40
														142.00	16.10
														143.00	15.00
														163.00	12.80
														185.00	9.00
														203.00	7.50
														253.00	2.70
														279.00	2.30
														329.00	2.40
														354.00	.60
														405.00	-1.30
														429.00	-2.30
														455.00	-3.50

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 14

DATE	640212	DATE	640310	DATE	640407	DATE	640525	DATE	640623	DATE	640829	DATE	640924	DATE	641201
SRVY	35	SRVY	36	SRVY	37	SRVY	38	SRVY	39	SRVY	40	SRVY	41	SRVY	42
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
163.00	13.00	102.00	14.50	118.00	14.30	118.00	14.20	118.00	14.40	117.00	14.40	117.00	14.40	117.00	14.40
167.00	13.10	118.00	15.60	142.00	18.20	140.00	18.10	151.00	18.30	140.00	17.10	140.00	18.10	140.00	17.60
179.00	11.00	138.00	18.90	153.00	18.10	154.00	18.20	177.00	11.40	154.00	17.60	150.00	18.40	151.00	18.10
193.00	7.50	148.00	18.80	176.00	12.00	175.00	12.10	197.00	8.20	201.00	8.00	181.00	11.10	180.00	10.70
202.00	6.30	161.00	14.50	192.00	8.70	191.00	9.00	227.00	6.50	231.00	7.50	252.00	6.60	200.00	9.00
227.00	6.60	182.00	11.50	226.00	6.60	226.00	6.80	277.00	8.30	247.00	8.30	276.00	4.00	227.00	8.00
252.00	5.60	187.00	9.50	277.00	8.90	252.00	5.90	298.00	7.60	302.00	1.10	302.00	3.30	251.00	6.60
303.00	3.40	201.00	8.10	302.00	5.70	302.00	7.50	352.00	-.10	327.00	-.90	354.00	.40	277.00	3.70
353.00	1.60	252.00	7.30	326.00	2.70	327.00	7.70	368.00	-1.80	358.00	-2.00	403.00	-2.50	301.00	2.40
379.00	1.60	278.00	6.90	353.00	.60	333.00	7.20							328.00	1.40
404.00	.60	303.00	5.80	403.00	-1.10	378.00	1.30							352.00	.40
429.00	-.80	329.00	3.50	428.00	-2.30	403.00	-1.70								
455.00	-2.40	354.00	1.90												
		379.00	1.20												
		403.00	.20												
		429.00	-.70												
		446.00	-2.50												

PROFILE 14

DATE	650119	DATE	650427	DATE	650907	DATE	651027	DATE	651222	DATE	660125	DATE	660321	DATE	660922
SRVY	43	SRVY	44	SRVY	45	SRVY	46	SRVY	47	SRVY	48	SRVY	49	SRVY	50
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
151.00	18.10	118.00	14.40	164.00	17.60	140.00	17.80	150.00	15.90	119.00	14.10	108.00	18.90	153.00	17.80
176.00	12.00	140.00	17.80	191.00	9.30	150.00	15.70	200.00	10.60	140.00	18.40	163.00	15.80	185.00	12.60
194.00	9.70	151.00	18.10	201.00	8.00	200.00	8.90	251.00	7.40	150.00	18.40	186.00	10.90	202.00	9.20
201.00	8.30	165.00	17.10	226.00	7.00	252.00	7.60	290.00	7.50	183.00	10.90	199.00	8.90	251.00	5.20
251.00	4.20	176.00	10.90	252.00	7.50	277.00	8.10	301.00	6.30	201.00	6.90	251.00	6.80	301.00	3.60
277.00	3.00	201.00	8.40	277.00	7.70	301.00	5.90	360.00	5.80	251.00	6.50	301.00	5.80	330.00	4.00
327.00	2.00	251.00	7.00	327.00	3.70	352.00	1.80	377.00	4.30	302.00	5.00	351.00	4.00	352.00	1.90
353.00	2.40	302.00	6.70	353.00	2.60	379.00	.20	403.00	1.90	352.00	3.10	402.00	1.10	402.00	-1.00
378.00	2.40	353.00	4.30	403.00	.30	402.00	-.10	428.00	0.00	402.00	2.10	427.00	-.40		
428.00	.40	403.00	1.90	429.00	-1.10	429.00	-2.10	454.00	-1.00			453.00	-.90		
453.00	-3.00	449.00	-.40			452.00	-2.50	476.00	-2.00						
		468.00	-2.10												

AD-A101 844 SCIENCE APPLICATIONS INC RALEIGH NC F/G 13/2
BEACH CHANGES AT LONG BEACH ISLAND, NEW JERSEY, 1962-73.(U)
OCT 80 M C MILLER, D G AUBREY, J KARPEN DACW72-79-C-0020
UNCLASSIFIED CERC-MR-80-9 NL

3 4

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 14

DATE	670118	DATE	670505	DATE	670920	DATE	671218	DATE	680117	DATE	680227	DATE	680327	DATE	681009
SRVY	51	SRVY	52	SRVY	54	SRVY	55	SRVY	56	SRVY	57	SRVY	58	SRVY	59
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
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138.00	17.70	138.00	18.10	124.00	16.90	136.00	19.10	142.00	19.20	137.00	18.90	137.00	18.60	137.00	19.30
162.00	14.70	149.00	18.00	143.00	18.00	146.00	18.70	149.00	19.00	148.00	19.40	149.00	18.80	147.00	18.60
179.00	12.70	163.00	16.80	163.00	18.20	169.00	15.20	200.00	10.30	158.00	18.20	162.00	17.20	160.00	16.60
204.00	9.50	174.00	13.50	205.00	10.30	199.00	10.30	250.00	7.00	192.00	12.00	187.00	12.50	185.00	12.70
227.00	8.00	190.00	10.50	223.00	8.50	251.00	7.70	300.00	5.00	200.00	11.20	206.00	10.20	210.00	9.80
252.00	5.90	208.00	8.40	250.00	6.80	300.00	5.20	343.00	5.30	299.00	7.40	250.00	7.20	250.00	7.90
276.00	6.00	250.00	6.30	300.00	5.20	328.00	5.80	368.00	3.40	349.00	6.80	300.00	6.90	305.00	7.10
301.00	6.30	301.00	5.40	325.00	5.30	351.00	4.00	400.00	1.90	400.00	3.40	349.00	5.20	325.00	4.90
326.00	5.10	351.00	4.40	351.00	4.90	422.00	-.80	450.00	-.50	450.00	2.00	375.00	5.00	350.00	2.90
376.00	2.20	374.00	3.20	402.00	1.10			474.00	-1.90	500.00	-.50	399.00	2.70	375.00	1.70
402.00	.30	401.00	1.30	427.00	-.70					525.00	-1.20	450.00	-1.00	400.00	.50
418.00	.20	427.00	-.60	452.00	-1.50							500.00	-4.10	425.00	-1.30
		452.00	-2.90												

PROFILE 14

DATE	681023	DATE	681113	DATE	681218	DATE	690115	DATE	690213	DATE	690304	DATE	690528	DATE	690924
SRVY	60	SRVY	61	SRVY	62	SRVY	63	SRVY	64	SRVY	65	SRVY	66	SRVY	67
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
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137.00	17.90	125.00	18.50	137.00	19.10	137.00	19.00	137.00	18.90	140.00	19.20	136.00	19.10	117.00	14.90
147.00	17.70	140.00	18.70	148.00	19.00	147.00	18.80	148.00	18.80	148.00	18.70	146.00	18.60	134.00	17.90
160.00	17.20	165.00	16.40	163.00	16.60	162.00	16.90	163.00	16.90	163.00	16.60	161.00	17.70	163.00	16.10
185.00	13.10	210.00	9.90	183.00	12.40	183.00	12.50	203.00	11.50	185.00	12.40	191.00	11.40	200.00	11.70
210.00	10.10	250.00	6.60	200.00	10.70	205.00	10.80	218.00	9.10	203.00	11.60	200.00	11.70	228.00	9.10
225.00	8.50	300.00	4.90	225.00	9.20	218.00	8.60	250.00	7.70	215.00	9.70	250.00	7.80	250.00	8.10
250.00	7.90	350.00	3.70	250.00	6.90	250.00	7.00	300.00	6.70	250.00	8.20	300.00	7.10	280.00	7.60
300.00	7.00	400.00	2.60	300.00	6.20	300.00	6.00	335.00	4.90	300.00	4.90	350.00	7.00	300.00	6.30
335.00	6.50	450.00	.50	350.00	5.20	338.00	6.20	358.00	4.10	350.00	3.50	362.00	7.10	325.00	6.30
350.00	5.70	475.00	-.50	375.00	4.30	350.00	5.40	375.00	2.90	400.00	3.20	400.00	2.00	350.00	3.80
375.00	4.20			400.00	2.40	375.00	3.60	400.00	1.60	450.00	2.00	450.00	-2.30	375.00	2.20
400.00	3.20			425.00	.40	400.00	1.40	425.00	1.00	480.00	-.60			400.00	1.10
425.00	1.70			450.00	-1.00	425.00	-.60	450.00	-.70					425.00	-.40
450.00	.30			475.00	-2.60	450.00	-2.10							450.00	-1.80

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 14

DATE	691020	DATE	691118	DATE	691218	DATE	700120	DATE	700216	DATE	700319	DATE	700521	DATE	700828
SRVY	68	SRVY	69	SRVY	70	SRVY	71	SRVY	72	SRVY	73	SRVY	74	SRVY	75
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
117.00	15.10	117.00	14.70	117.00	14.60	117.00	14.50	117.00	15.30	117.00	14.70	117.00	14.90	117.00	15.30
140.00	17.90	135.00	17.70	139.00	17.30	143.00	18.20	138.00	19.60	150.00	17.40	141.00	18.70	138.00	18.00
163.00	16.20	157.00	17.00	162.00	17.80	164.00	17.70	159.00	18.50	169.00	18.30	167.00	19.30	154.00	19.50
200.00	11.70	219.00	10.20	204.00	12.20	184.00	13.60	170.00	16.50	187.00	14.50	192.00	14.50	200.00	13.60
225.00	9.30	250.00	8.50	214.00	10.30	210.00	10.70	185.00	13.00	211.00	10.80	220.00	10.00	222.00	9.70
250.00	8.20	297.00	5.50	244.00	8.90	250.00	8.50	200.00	13.00	250.00	8.40	273.00	7.50	250.00	8.10
275.00	8.30	350.00	4.30	272.00	7.10	300.00	6.00	250.00	8.60	300.00	7.30	300.00	7.30	300.00	8.00
300.00	9.00	376.00	4.10	300.00	7.20	348.00	4.20	300.00	7.70	350.00	7.40	354.00	7.40	315.00	7.80
325.00	6.60	400.00	2.60	317.00	7.00	437.00	5.80	350.00	6.50	400.00	4.00	400.00	3.00	350.00	4.00
350.00	4.10	425.00	.90	350.00	5.60	450.00	4.50	400.00	5.60	450.00	1.80	458.00	-1.00	400.00	.90
375.00	2.00	450.00	-1.20	385.00	4.00	500.00	1.50	450.00	2.10	500.00	.40			450.00	-.60
400.00	.20	475.00	-2.60	410.00	4.50	525.00	.50	500.00	-.40	550.00	-1.30			500.00	-1.00
425.00	-1.20	500.00	-3.40	450.00	1.70	552.00	-.70	525.00	-1.70	571.00	-2.00			550.00	-2.40
450.00	-2.10			500.00	-1.00									600.00	-4.20
475.00	-2.60			535.00	-2.20									650.00	-5.30
500.00	-3.70														

PROFILE 14

DATE	701012	DATE	701207	DATE	701218	DATE	710112	DATE	710208	DATE	710308	DATE	710408	DATE	710624
SRVY	76	SRVY	77	SRVY	78	SRVY	79	SRVY	80	SRVY	81	SRVY	82	SRVY	83
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
117.00	15.30	117.00	14.60	117.00	15.40	117.00	15.30	117.00	14.40	117.00	14.40	117.00	14.70	117.00	13.70
139.00	17.80	150.00	18.00	125.00	16.40	139.00	19.20	139.00	18.80	141.00	18.80	137.00	18.80	142.00	18.40
158.00	19.30	175.00	19.30	150.00	19.60	167.00	19.20	150.00	19.00	155.00	18.50	150.00	19.30	162.00	18.60
200.00	13.80	200.00	14.00	159.00	20.10	200.00	13.90	156.00	19.40	169.00	16.70	163.00	17.20	205.00	15.30
235.00	9.10	250.00	8.60	175.00	17.80	223.00	9.90	200.00	14.20	200.00	13.90	180.00	14.90	250.00	7.70
250.00	8.30	300.00	7.50	200.00	14.00	250.00	8.60	204.00	13.50	210.00	13.70	205.00	12.80	300.00	6.00
300.00	7.70	350.00	6.60	225.00	9.90	300.00	6.10	225.00	9.90	216.00	11.10	225.00	9.90	350.00	3.70
342.00	7.00	400.00	2.70	250.00	8.80	323.00	5.40	250.00	8.30	250.00	8.20	275.00	6.10	400.00	-.30
350.00	6.20	450.00	-.10	275.00	7.20	369.00	6.70	300.00	7.10	288.00	5.40	325.00	4.60	450.00	-4.10
400.00	2.00	460.00	-2.70	300.00	6.00	400.00	4.20	323.00	7.10	300.00	5.40	365.00	4.00		
450.00	-.30			325.00	5.00	450.00	-.30	350.00	5.20	333.00	5.60	390.00	2.00		
500.00	-.60			335.00	4.70	475.00	-2.00	400.00	2.70	350.00	4.60	440.00	-.60		
550.00	-1.90			350.00	4.90			450.00	1.00	400.00	1.10	475.00	-2.60		
				375.00	5.20			500.00	-2.00	425.00	-1.20				
				389.00	5.30			520.00	-3.10	440.00	-2.10				
				400.00	3.90										
				425.00	1.20										
				450.00	.30										

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 14

DATE	710817	DATE	711007	DATE	711214	DATE	720112	DATE	720215	DATE	720223	DATE	720315	DATE	720911
SRVY	85	SRVY	86	SRVY	87	SRVY	88	SRVY	89	SRVY	90	SRVY	91	SRVY	92
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
53.00	12.30	53.00	12.20	53.00	12.40	100.00	14.00	100.00	14.00	100.00	14.00	100.00	14.00	53.00	12.80
139.00	19.90	113.00	14.40	120.00	15.10	116.00	15.00	150.00	18.00	166.00	18.50	114.00	14.10	100.00	14.00
150.00	18.60	163.00	18.40	165.00	19.00	165.00	18.70	160.00	18.30	187.00	18.20	161.00	18.50	116.00	14.50
172.00	17.30	200.00	15.30	200.00	15.80	186.00	17.70	170.00	17.80	200.00	17.30	190.00	17.30	150.00	17.60
209.00	15.20	245.00	8.80	235.00	9.90	200.00	15.80	200.00	15.00	223.00	13.50	211.00	15.00	168.00	17.80
216.00	13.20	250.00	8.40	250.00	8.60	238.00	9.50	240.00	8.90	235.00	8.40	237.00	7.70	195.00	15.00
250.00	8.30	300.00	9.70	300.00	6.80	250.00	8.80	250.00	7.80	250.00	6.80	250.00	7.00	205.00	15.60
271.00	7.30	350.00	2.80	350.00	5.30	280.00	8.20	300.00	4.50	300.00	4.30	300.00	6.10	227.00	8.90
310.00	8.20	400.00	-1.80	400.00	.80	300.00	5.70	350.00	1.50	350.00	3.60	350.00	2.90	250.00	7.90
350.00	3.70	450.00	-2.20	450.00	-2.80	350.00	1.70	400.00	-1.50	400.00	.60	400.00	.90	300.00	7.10
400.00	-.40					400.00	-2.30	425.00	-2.50	450.00	-2.40	450.00	-1.20	317.00	5.60
450.00	-3.80											475.00	-2.10	346.00	6.00
														400.00	.40
														450.00	-2.50

PROFILE 14

DATE	720824	DATE	721017	DATE	721205	DATE	730103	DATE	730214	DATE	730314	DATE	730325	DATE	730403
SRVY	93	SRVY	94	SRVY	95	SRVY	96	SRVY	97	SRVY	98	SRVY	99	SRVY	100
TIME	800	TIME	1100	TIME	1200	TIME	1200	TIME	900	TIME	1000	TIME	800	TIME	1200
53.00	12.70	53.00	12.20	53.00	12.20	53.00	12.30	53.00	12.20	53.00	12.20	100.00	14.00	53.00	12.30
100.00	13.90	103.00	13.80	100.00	14.00	100.00	13.90	100.00	14.00	100.00	13.90	171.00	18.20	100.00	13.90
150.00	17.50	158.00	18.00	150.00	17.90	150.00	17.30	158.00	18.20	150.00	17.30	190.00	18.00	150.00	17.50
168.00	18.00	200.00	15.40	181.00	18.00	186.00	18.20	192.00	17.80	160.00	18.10	200.00	17.30	161.00	16.20
200.00	15.10	209.00	13.10	200.00	15.70	200.00	16.20	200.00	17.00	193.00	17.40	228.00	10.90	168.00	16.20
238.00	8.70	230.00	9.80	213.00	13.00	212.00	14.60	212.00	15.20	200.00	16.40	250.00	8.70	200.00	17.40
250.00	8.20	250.00	8.70	234.00	9.70	229.00	10.50	225.00	11.50	217.00	11.30	300.00	6.00	241.00	9.40
278.00	8.60	300.00	6.70	250.00	9.30	250.00	8.80	245.00	9.50	250.00	7.60	350.00	5.00	250.00	8.80
285.00	7.40	332.00	5.50	300.00	8.90	300.00	6.50	287.00	8.80	300.00	7.00	400.00	1.60	266.00	8.10
300.00	6.80	343.00	3.90	312.00	8.40	350.00	6.10	250.00	8.30	350.00	5.00	450.00	-2.40	300.00	8.80
350.00	2.00	350.00	2.90	350.00	3.90	400.00	2.00	303.00	4.60	375.00	5.20			314.00	6.60
400.00	-1.30	400.00	-.60	400.00	1.20	450.00	-1.50	312.00	4.60	400.00	2.90			350.00	4.90
		425.00	-1.10	450.00	-1.50	500.00	-3.50	332.00	3.10	450.00	-1.80			400.00	1.10
		450.00	-2.00					373.00	4.30					450.00	-2.10
								400.00	1.80						
								450.00	-.70						
								475.00	-2.10						

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 14

DATE	730418	DATE	730612
SRVY	101	SRVY	103
TIME	900	TIME	1200
53.00	12.20	53.00	12.20
100.00	13.00	100.00	14.10
142.00	16.30	129.00	15.20
160.00	18.00	150.00	16.50
188.00	18.20	182.00	17.20
213.00	14.90	200.00	16.10
230.00	10.40	207.00	15.50
250.00	8.40	250.00	9.00
300.00	8.10	291.00	8.50
350.00	5.70	300.00	7.40
400.00	.60	330.00	7.20
417.00	-1.80	350.00	3.00
		375.00	-.30
		400.00	-2.20

PROFILE 15

DATE	621002	DATE	621011	DATE	621023	DATE	621029
SRVY	3	SRVY	4	SRVY	5	SRVY	6
TIME	1200	TIME	1200	TIME	1200	TIME	1200
218.00	10.40	315.00	14.10	329.00	13.10	329.00	13.50
275.00	12.40	328.00	13.00	369.00	8.50	378.00	7.70
312.00	14.40	370.00	8.20	402.00	4.60	405.00	4.70
369.00	8.30	407.00	4.30	457.00	-.50	448.00	2.00
370.00	7.30	450.00	1.40			494.00	-1.90
401.00	5.90	482.00	-.30				
427.00	3.60						
470.00	-.30						
502.00	-2.60						

DATE	621108	DATE	621210	DATE	630115	DATE	630121
SRVY	7	SRVY	8	SRVY	9	SRVY	10
TIME	1200	TIME	1200	TIME	1200	TIME	1200
293.00	13.30	267.00	11.80	0.00	6.40	401.00	6.40
319.00	14.40	320.00	14.70	100.00	7.90	425.00	5.00
345.00	11.20	322.00	11.50	200.00	9.90	465.00	4.40
348.00	8.60	338.00	6.90	301.00	13.50	476.00	2.80
366.00	6.80	364.00	5.40	316.00	10.00	501.00	.50
395.00	6.60	411.00	1.80	330.00	7.90	526.00	-1.20
425.00	5.70	462.00	-.90	350.00	8.00		
453.00	2.30	511.00	-4.40	375.00	8.40		
485.00	-.80			381.00	8.20		
				402.00	6.40		
				427.00	5.20		
				451.00	3.50		
				477.00	2.30		
				501.00	-.50		

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 15

DATE	630121	DATE	630204	DATE	630212	DATE	630220	DATE	630226	DATE	630304	DATE	630311	DATE	630319
SRVY	11	SRVY	12	SRVY	13	SRVY	14	SRVY	15	SRVY	16	SRVY	17	SRVY	18
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
401.00	6.00	327.00	9.50	376.00	9.30	316.00	10.20	451.00	6.50	450.00	6.00	450.00	6.30	350.00	10.40
425.00	4.50	350.00	9.50	401.00	7.90	320.00	9.70	475.00	5.20	476.00	5.60	476.00	5.70	402.00	7.40
452.00	3.90	375.00	9.30	426.00	7.40	347.00	11.10	501.00	5.00	500.00	3.80	502.00	4.50	452.00	6.40
476.00	2.80	401.00	8.30	452.00	6.40	351.00	10.10	527.00	2.10	525.00	2.50	528.00	2.60	477.00	5.90
485.00	2.80	426.00	7.20	476.00	5.80	376.00	9.30	551.00	.60	551.00	1.20	551.00	1.30	502.00	4.60
551.00	-.80	450.00	6.50	527.00	2.00	451.00	6.40	601.00	-1.00	576.00	.30	601.00	-.80	550.00	1.90
575.00	-1.70	476.00	5.60	549.00	.80	501.00	3.50			601.00	-.30	625.00	-1.50	578.00	1.10
		526.00	2.00	601.00	-.90	526.00	1.70			626.00	-1.50			602.00	-.10
		551.00	1.30			552.00	.80							626.00	-1.00
		577.00	.50			601.00	-.90								
		601.00	-.70												

PROFILE 15

DATE	630326	DATE	630408	DATE	630528	DATE	630613	DATE	630625	DATE	630711	DATE	630723	DATE	630806
SRVY	19	SRVY	20	SRVY	21	SRVY	22	SRVY	23	SRVY	24	SRVY	25	SRVY	26
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
323.00	9.70	376.00	9.20	0.00	6.50	421.00	7.10	477.00	5.20	445.00	6.80	320.00	11.10	320.00	11.10
351.00	9.90	402.00	8.20	50.00	6.60	451.00	6.80	500.00	3.40	476.00	6.40	350.00	10.30	351.00	10.00
431.00	6.80	425.00	6.80	151.00	9.10	474.00	5.30	526.00	2.50	502.00	4.90	401.00	4.50	401.00	8.00
478.00	5.90	452.00	6.20	250.00	12.10	501.00	4.20	601.00	-1.20	524.00	1.90	427.00	7.00	428.00	7.20
501.00	3.70	475.00	6.10	301.00	14.40	526.00	2.40			549.00	0.00	452.00	6.80	450.00	6.90
526.00	1.80	525.00	2.90	310.00	14.30	551.00	0.00			578.00	-1.00	475.00	6.70	477.00	6.70
552.00	.60	552.00	2.30	320.00	10.70	577.00	-1.50					503.00	6.90	502.00	5.40
599.00	0.00	602.00	-.40	376.00	8.90							527.00	5.30	527.00	5.30
624.00	-.70	627.00	-1.30	401.00	7.80							552.00	3.10	552.00	3.70
652.00	-1.20			426.00	7.00							577.00	2.00	576.00	1.50
				451.00	6.20							602.00	1.20	652.00	-.60
				481.00	5.70							626.00	.50	676.00	-2.00
				502.00	5.40							652.00	.10		
				530.00	2.60							678.00	-.20		
				553.00	.80										
				577.00	-.80										

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 15

DATE	630820	DATE	630906	DATE	630926	DATE	631010	DATE	631025	DATE	631115	DATE	631227	DATE	640115
SRVY	27	SRVY	28	SRVY	29	SRVY	30	SRVY	31	SRVY	32	SRVY	33	SRVY	34
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
351.00	10.00	352.00	10.00	313.00	10.20	354.00	10.00	328.00	11.90	328.00	11.80	309.00	13.30	-205.00	5.40
375.00	9.30	378.00	9.00	327.00	11.30	403.00	7.90	378.00	9.20	355.00	9.60	319.00	13.30	-154.00	5.70
424.00	7.40	402.00	8.10	404.00	8.30	429.00	6.00	403.00	8.30	378.00	8.20	337.00	10.90	-100.00	5.80
451.00	6.80	427.00	7.00	429.00	6.50	454.00	6.50	429.00	7.00	404.00	7.70	354.00	9.90	-55.00	5.70
478.00	6.70	451.00	5.50	454.00	6.10	479.00	5.80	453.00	7.60	428.00	7.90	403.00	8.40	-35.00	5.80
501.00	4.10	501.00	3.10	480.00	6.50	505.00	3.40	479.00	6.10	480.00	7.00	454.00	6.10	-2.00	6.50
526.00	4.20	528.00	2.50	505.00	5.30	531.00	1.80	504.00	3.80	505.00	5.30	481.00	6.20	48.00	6.50
577.00	2.20	551.00	1.50	566.00	-.60	555.00	-.50	531.00	.90	530.00	2.80	505.00	4.80	98.00	7.90
601.00	.90							555.00	-.50	556.00	.30	529.00	3.30	148.00	9.00
629.00	.50									580.00	.30	556.00	2.80	199.00	10.40
681.00	-1.10									605.00	-2.30	581.00	1.00	250.00	11.60
												630.00	-1.60	300.00	14.20
														316.00	14.00
														327.00	11.50
														351.00	10.00
														378.00	9.10
														401.00	7.60
														426.00	5.50
														452.00	4.20
														477.00	3.10
														503.00	3.00
														529.00	2.50
														553.00	.60
														580.00	-.30
														603.00	-.50

PROFILE 15

DATE	640212	DATE	640310	DATE	640407	DATE	640525	DATE	640623	DATE	640829	DATE	640924	DATE	641201
SRVY	35	SRVY	36	SRVY	37	SRVY	38	SRVY	39	SRVY	40	SRVY	41	SRVY	42
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
348.00	10.10	315.00	14.00	299.00	14.20	314.00	14.50	320.00	13.30	303.00	14.00	305.00	14.60	303.00	16.00
361.00	10.10	328.00	11.40	315.00	14.20	325.00	12.70	330.00	11.60	317.00	14.00	316.00	14.70	316.00	13.20
427.00	6.70	353.00	10.40	326.00	12.90	342.00	12.90	345.00	12.90	329.00	11.40	331.00	11.60	330.00	11.40
448.00	6.60	405.00	7.60	347.00	13.70	351.00	12.20	365.00	10.00	348.00	12.60	350.00	13.20	349.00	13.10
477.00	5.90	453.00	6.20	376.00	9.10	362.00	10.10	379.00	8.90	375.00	9.30	360.00	10.10	359.00	10.20
502.00	1.90	478.00	5.80	400.00	7.30	375.00	8.90	420.00	6.40	400.00	7.70	375.00	9.50	375.00	9.60
527.00	.90	503.00	4.80	427.00	6.60	426.00	6.10	477.00	7.30	426.00	6.70	401.00	9.30	426.00	8.00
550.00	.40	528.00	3.10	452.00	6.20	451.00	6.80	502.00	6.10	471.00	7.30	451.00	7.00	452.00	7.30
579.00	0.00	553.00	2.40	502.00	4.30	502.00	6.50	528.00	4.80	563.00	-1.70	477.00	4.90	477.00	5.50
629.00	-2.20	578.00	1.00	528.00	2.20	524.00	5.60	553.00	3.20			503.00	2.20	502.00	2.70
		604.00	-1.00	553.00	1.30	528.00	4.30	579.00	1.00			528.00	.80	528.00	.70
		630.00	-1.90	577.00	.20	552.00	2.70	603.00	-1.80			551.00	-.70		
				603.00	-1.30	577.00	2.40					582.00	-1.90		
				628.00	-3.20	603.00	-2.30								

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 15

DATE	650119	DATE	650427	DATE	650907	DATE	651027	DATE	651222	DATE	660125	DATE	660321	DATE	660922
SRVY	43	SRVY	44	SRVY	45	SRVY	46	SRVY	47	SRVY	48	SRVY	49	SRVY	50
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
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351.00	13.10	305.00	14.10	350.00	13.20	299.00	14.20	361.00	10.60	330.00	11.30	361.00	14.10	356.00	14.40
375.00	9.90	317.00	14.00	354.00	11.40	305.00	14.00	378.00	9.90	345.00	14.10	366.00	11.40	382.00	[illegible]
402.00	9.20	330.00	11.60	401.00	8.50	344.00	14.20	401.00	8.40	361.00	14.00	376.00	10.30	401.00	6.70
427.00	6.80	350.00	13.10	427.00	7.90	361.00	10.60	459.00	8.20	371.00	11.20	400.00	8.20	425.00	6.70
452.00	4.90	358.00	14.90	464.00	8.20	401.00	7.90	471.00	5.90	400.00	8.20	451.00	6.20	452.00	5.60
502.00	2.40	374.00	9.40	477.00	7.20	453.00	8.60	501.00	6.00	451.00	6.10	501.00	3.60	501.00	3.50
527.00	2.50	401.00	8.60	527.00	1.10	501.00	5.10	527.00	4.10	501.00	2.30	551.00	.50	526.00	2.50
553.00	2.90	452.00	7.00	573.00	-1.20	527.00	3.00	552.00	1.70	542.00	.80	597.00	-2.10	552.00	2.00
603.00	2.00	502.00	7.10			553.00	1.50	577.00	0.00					577.00	1.50
653.00	.20	552.00	3.90			578.00	.30	602.00	-1.20					653.00	-1.50
679.00	-1.80	602.00	.20			604.00	-1.00	628.00	-2.20						
		629.00	-1.00			628.00	-1.90								

PROFILE 15

DATE	670116	DATE	670510	DATE	670920	DATE	671218	DATE	680117	DATE	680227	DATE	680327	DATE	681009
SRVY	51	SRVY	53	SRVY	54	SRVY	55	SRVY	56	SRVY	57	SRVY	58	SRVY	59
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
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308.00	14.60	350.00	14.40	325.00	14.00	344.00	15.20	343.00	15.60	340.00	14.30	332.00	14.80	340.00	15.80
361.00	14.10	365.00	14.30	350.00	13.30	366.00	14.80	360.00	15.50	362.00	14.30	361.00	13.20	365.00	14.40
373.00	12.90	376.00	12.80	376.00	11.80	385.00	9.70	384.00	9.80	384.00	9.70	385.00	9.70	385.00	10.60
385.00	9.70	388.00	9.10	401.00	8.60	425.00	6.40	400.00	8.80	451.00	6.20	450.00	6.00	405.00	8.50
427.00	7.60	400.00	7.80	425.00	6.80	451.00	4.50	450.00	7.30	500.00	5.70	500.00	5.00	425.00	7.50
451.00	6.10	451.00	5.40	451.00	5.90	475.00	3.80	501.00	5.40	550.00	1.70	550.00	1.00	450.00	7.00
476.00	6.50	501.00	4.40	477.00	5.70	502.00	5.10	551.00	2.20	601.00	-.40	600.00	-2.40	500.00	7.00
501.00	5.80	527.00	3.20	552.00	0.00	510.00	5.30	601.00	-.80	639.00	-3.30	625.00	-3.50	565.00	6.10
527.00	4.40	551.00	1.50	602.00	-3.10	525.00	4.20	634.00	-2.70					525.00	3.90
555.00	1.80	576.00	-.80			551.00	3.40							550.00	2.50
578.00	0.00	602.00	-2.70			577.00	.90							575.00	1.50
593.00	-.50					602.00	-.40							600.00	-.10
						617.00	-1.40							625.00	-2.50

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 15

DATE	681023	DATE	681113	DATE	681218	DATE	690115	DATE	690213	DATE	690304	DATE	690528	DATE	690924
SRVY	60	SRVY	61	SRVY	62	SRVY	63	SRVY	64	SRVY	65	SRVY	66	SRVY	67
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
345.00	15.10	350.00	15.00	346.00	15.20	344.00	15.00	305.00	15.00	365.00	14.30	342.00	15.10	330.00	13.70
360.00	15.00	365.00	14.60	360.00	14.40	365.00	14.40	365.00	14.00	380.00	12.30	362.00	14.60	345.00	14.90
375.00	12.40	370.00	14.10	375.00	12.70	380.00	10.20	382.00	10.30	384.00	8.40	374.00	12.40	363.00	14.40
390.00	9.90	376.00	10.70	380.00	9.80	400.00	8.20	400.00	8.90	400.00	6.20	380.00	9.50	381.00	9.60
405.00	8.40	400.00	8.30	400.00	8.20	450.00	7.20	450.00	7.50	425.00	3.90	400.00	7.60	400.00	6.00
425.00	7.40	450.00	5.90	450.00	6.00	495.00	6.50	500.00	4.40	450.00	2.60	450.00	7.60	425.00	7.40
450.00	7.80	500.00	4.00	500.00	4.70	525.00	4.50	525.00	2.40	500.00	2.20	500.00	6.60	450.00	6.50
475.00	8.30	550.00	1.50	525.00	3.80	550.00	2.30	550.00	1.40	550.00	1.10	518.00	5.70	488.00	4.00
505.00	6.40	575.00	-.40	550.00	2.10	575.00	.40	575.00	.60	580.00	-.30	550.00	2.10	500.00	7.50
506.00	6.30	600.00	-1.70	575.00	.60	600.00	-1.40	600.00	-.30			600.00	-2.10	525.00	4.40
525.00	4.40			600.00	-.80	625.00	-2.30	625.00	-1.40			625.00	-3.40	550.00	3.00
550.00	2.90			625.00	-2.40	650.00	-3.50							575.00	2.20
575.00	1.70													600.00	.70
600.00	.30													625.00	-.10
														650.00	-1.50

PROFILE 15

DATE	691020	DATE	691119	DATE	691218	DATE	700120	DATE	700216	DATE	700319	DATE	700521	DATE	700828
SRVY	68	SRVY	69	SRVY	70	SRVY	71	SRVY	72	SRVY	73	SRVY	74	SRVY	75
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
328.00	13.90	325.00	13.80	325.00	13.60	323.00	13.90	350.00	14.60	312.00	14.70	312.00	14.80	325.00	14.00
346.00	14.30	345.00	14.90	345.00	14.90	350.00	14.60	365.00	14.40	350.00	12.90	370.00	13.10	358.00	15.20
364.00	14.10	363.00	14.20	363.00	14.10	362.00	14.40	380.00	11.70	374.00	11.90	400.00	8.90	376.00	12.40
400.00	7.90	378.00	10.60	377.00	10.50	376.00	11.00	403.00	8.90	400.00	8.90	450.00	7.10	400.00	9.10
409.00	7.60	400.00	9.00	400.00	9.20	400.00	8.80	450.00	6.50	456.00	7.60	500.00	7.30	450.00	7.50
425.00	7.90	450.00	5.50	425.00	7.40	450.00	5.90	500.00	4.80	500.00	4.90	517.00	7.60	466.00	6.00
450.00	8.80	500.00	3.50	450.00	5.70	475.00	5.10	540.00	4.40	550.00	1.50	550.00	4.80	500.00	5.00
475.00	9.20	550.00	.60	475.00	4.10	512.00	5.80	550.00	3.30	600.00	-1.50	575.00	-.70	550.00	.90
500.00	6.00	600.00	-2.00	500.00	2.10	550.00	2.90	600.00	.30			583.00	-1.30	600.00	-1.70
525.00	4.10	625.00	-3.90	513.00	1.30	600.00	.20	650.00	-.70			593.00	-2.10	643.00	-3.50
550.00	2.80			550.00	.60	634.00	-1.10	675.00	-1.70					650.00	-4.20
575.00	1.60			600.00	-.80									700.00	-2.40
600.00	.60			650.00	-2.20									750.00	-3.60
627.00	-1.40			675.00	-3.10									800.00	-4.70
631.00	-2.80														
650.00	-4.40														
675.00	-4.60														
691.00	-4.50														
704.00	-1.30														
725.00	-.20														
750.00	-.90														
775.00	-1.20														
800.00	-1.80														
825.00	-2.60														

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 15

DATE	701012	DATE	701207	DATE	701218	DATE	710112	DATE	710208	DATE	710308	DATE	710408	DATE	710624
SRVY	76	SRVY	77	SRVY	78	SRVY	79	SRVY	80	SRVY	81	SRVY	82	SRVY	83
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
322.00	14.10	300.00	14.40	300.00	14.20	300.00	14.10	300.00	14.40	300.00	14.20	340.00	16.10	300.00	14.20
364.00	15.10	350.00	13.40	325.00	14.10	326.00	14.10	332.00	14.20	333.00	13.90	378.00	14.20	330.00	13.70
374.00	13.50	385.00	12.50	350.00	15.10	350.00	14.70	346.00	15.00	362.00	15.00	393.00	10.30	346.00	15.70
379.00	11.90	400.00	9.90	375.00	14.40	375.00	14.80	375.00	14.70	378.00	14.30	400.00	9.50	365.00	15.80
400.00	9.10	450.00	8.00	400.00	9.80	380.00	12.70	400.00	9.70	400.00	9.40	440.00	5.70	400.00	9.50
450.00	7.60	500.00	6.10	425.00	7.90	400.00	9.70	415.00	8.30	434.00	6.50	500.00	4.10	450.00	8.10
475.00	7.30	521.00	5.90	450.00	5.90	450.00	6.00	450.00	6.70	450.00	5.50	550.00	1.10	487.00	7.80
488.00	6.90	550.00	3.30	475.00	4.90	494.00	6.00	500.00	4.40	494.00	5.20	600.00	-1.90	500.00	4.90
500.00	6.80	600.00	-.80	482.00	4.70	550.00	2.10	550.00	2.00	500.00	4.70			550.00	2.00
510.00	6.70			500.00	5.20	600.00	-1.40	600.00	.40	525.00	3.30			600.00	-2.40
525.00	5.20			515.00	5.20	625.00	-3.30	650.00	-2.60	550.00	1.50				
550.00	3.30			525.00	4.40			665.00	-4.00	575.00	-1.10				
600.00	.60			550.00	2.20					590.00	-2.00				
650.00	-.60			575.00	.20										
700.00	-1.80														
750.00	-3.10														
800.00	-4.30														

PROFILE 15

DATE	710817	DATE	711007	DATE	711214	DATE	720112	DATE	720215	DATE	720223	DATE	720313	DATE	720411
SRVY	85	SRVY	86	SRVY	87	SRVY	88	SRVY	89	SRVY	90	SRVY	91	SRVY	92
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
300.00	14.20	300.00	14.50	300.00	14.10	300.00	14.00	300.00	14.20	300.00	13.90	330.00	14.30	300.00	14.10
338.00	14.60	370.00	13.50	335.00	14.00	334.00	14.50	327.00	14.70	323.00	15.30	335.00	14.40	319.00	14.70
359.00	16.00	400.00	10.00	350.00	16.70	351.00	16.20	345.00	15.90	349.00	15.40	355.00	16.20	336.00	14.90
372.00	15.00	450.00	9.00	373.00	14.50	378.00	15.10	373.00	14.40	365.00	15.90	376.00	14.90	359.00	16.00
377.00	12.80	471.00	9.10	390.00	10.60	400.00	10.40	397.00	10.00	379.00	14.60	395.00	9.20	372.00	15.40
400.00	9.90	500.00	6.80	400.00	9.50	415.00	9.00	400.00	9.50	400.00	8.30	400.00	8.60	400.00	9.10
427.00	7.90	550.00	.90	450.00	9.20	450.00	9.30	450.00	6.80	450.00	5.70	450.00	8.50	435.00	8.10
450.00	8.20	600.00	-1.40	458.00	9.20	462.00	9.10	476.00	6.30	500.00	3.90	500.00	3.20	455.00	5.90
478.00	8.40	650.00	-3.10	500.00	4.70	500.00	4.90	500.00	4.20	526.00	4.10	550.00	.30	479.00	6.30
500.00	6.20			550.00	1.60	550.00	.90	550.00	.40	550.00	2.00	575.00	-.50	500.00	3.90
550.00	.20			600.00	-2.60	575.00	-.60	600.00	-2.60	575.00	0.00	600.00	-1.60	550.00	-.10
600.00	-4.00					595.00	-2.60			600.00	-2.00			590.00	-2.60

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 15

DATE	720828	DATE	721017	DATE	721205	DATE	730103
SRVY	93	SRVY	94	SRVY	95	SRVY	96
TIME	800	TIME	1100	TIME	1200	TIME	1200
300.00	14.00	300.00	14.10	300.00	14.10	300.00	14.10
324.00	14.20	317.00	15.20	310.00	15.10	344.00	15.70
350.00	16.10	342.00	14.60	350.00	16.00	375.00	14.10
373.00	14.60	350.00	16.00	375.00	14.00	400.00	9.80
380.00	12.30	372.00	14.70	400.00	10.30	450.00	6.70
400.00	9.50	391.00	10.70	448.00	8.80	500.00	4.50
450.00	8.70	400.00	9.90	500.00	3.50	550.00	.90
465.00	6.90	450.00	8.30	550.00	1.10	600.00	-2.20
500.00	6.10	500.00	6.40	600.00	-1.80		
550.00	1.10	518.00	5.50				
575.00	-1.00	519.00	4.70				
600.00	-2.00	525.00	3.80				
		550.00	1.70				
		575.00	-.10				
		600.00	-1.70				

DATE	730214	DATE	730314	DATE	730325	DATE	730405
SRVY	97	SRVY	98	SRVY	99	SRVY	100
TIME	900	TIME	1000	TIME	900	TIME	1200
300.00	14.20	300.00	14.20	300.00	14.10	300.00	14.10
312.00	15.70	339.00	15.00	345.00	15.80	341.00	15.50
330.00	14.90	348.00	15.80	367.00	14.90	358.00	15.40
346.00	15.80	383.00	12.80	384.00	12.20	374.00	13.80
365.00	15.10	390.00	9.00	388.00	10.10	383.00	12.40
384.00	13.00	400.00	7.90	400.00	8.20	386.00	10.40
387.00	8.20	450.00	6.50	450.00	5.80	393.00	9.50
400.00	6.80	495.00	5.80	500.00	2.80	400.00	9.00
450.00	4.10	500.00	5.10	550.00	-1.20	430.00	8.30
463.00	4.30	525.00	1.70			450.00	7.00
500.00	.90	550.00	-.80			500.00	2.60
550.00	-.60	575.00	-2.90			550.00	-.50
575.00	-1.70					573.00	-3.10

PROFILE 15

DATE	730418	DATE	730612
SRVY	101	SRVY	103
TIME	1000	TIME	1200
300.00	14.10	300.00	14.10
315.00	15.30	342.00	15.50
335.00	15.90	365.00	14.90
375.00	13.90	390.00	10.20
400.00	9.70	400.00	9.60
450.00	6.20	414.00	8.90
500.00	3.20	432.00	8.30
540.00	-1.80	450.00	6.50
		476.00	7.00
		500.00	3.80
		525.00	.90
		550.00	-1.70

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 16

DATE	621002	DATE	621011	DATE	621023	DATE	621029	DATE	621108	DATE	621210	DATE	630115	DATE	630121
SRVY	3	SRVY	4	SRVY	5	SRVY	6	SRVY	7	SRVY	8	SRVY	9	SRVY	10
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
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53.00	10.60	86.00	17.10	86.00	17.00	101.00	16.90	85.00	17.30	112.00	17.50	-1.00	9.90	176.00	8.40
81.00	17.20	109.00	16.50	110.00	16.60	121.00	15.50	110.00	16.40	143.00	12.40	44.00	11.00	201.00	6.90
107.00	17.00	141.00	12.90	140.00	12.90	142.00	12.80	135.00	14.80	170.00	11.10	49.00	11.70	241.00	6.50
164.00	9.60	165.00	12.00	169.00	11.90	183.00	11.00	145.00	12.70	174.00	8.60	54.00	11.90	252.00	5.60
192.00	9.50	240.00	7.00	230.00	7.60	222.00	7.70	176.00	11.20	183.00	6.20	66.00	14.70	300.00	1.20
197.00	6.20	297.00	3.10	262.00	4.10	251.00	6.70	180.00	8.80	217.00	5.70	80.00	17.30	324.00	-.30
258.00	1.30	329.00	1.70	296.00	1.40	298.00	1.10	209.00	5.20	232.00	5.20	104.00	16.80	350.00	-2.30
327.00	-.80	356.00	-.70	314.00	-.10	340.00	-1.30	230.00	4.70	272.00	1.60	105.00	16.50		
405.00	-2.10							259.00	3.00	310.00	-.10	115.00	16.60		
447.00	-3.30							299.00	.80	332.00	-1.40	150.00	11.90		
								336.00	-1.10			159.00	11.80		
												170.00	10.90		
												176.00	8.20		
												201.00	6.90		
												226.00	6.00		
												251.00	5.20		
												276.00	3.10		
												301.00	.90		
												326.00	-.40		
												336.00	-1.50		

PROFILE 16

DATE	630128	DATE	630204	DATE	630212	DATE	630220	DATE	630226	DATE	630304	DATE	630311	DATE	630319
SRVY	11	SRVY	12	SRVY	13	SRVY	14	SRVY	15	SRVY	16	SRVY	17	SRVY	18
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
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177.00	8.30	150.00	12.00	201.00	7.20	150.00	11.90	169.00	10.80	125.00	12.00	230.00	6.30	201.00	7.30
210.00	6.80	160.00	11.90	225.00	7.00	165.00	11.10	184.00	8.30	151.00	11.90	266.00	3.60	233.00	6.80
240.00	4.40	171.00	10.90	251.00	6.20	176.00	8.20	203.00	6.90	165.00	10.60	302.00	1.30	259.00	3.90
286.00	4.60	175.00	8.20	257.00	5.30	199.00	7.00	221.00	6.80	180.00	8.10	326.00	-.20	277.00	1.60
300.00	2.50	200.00	7.20	276.00	3.90	222.00	6.80	251.00	5.00	200.00	7.00	351.00	-1.20	300.00	-.30
324.00	0.00	225.00	6.10	301.00	.60	276.00	2.70	280.00	2.70	226.00	6.70			343.00	-1.10
337.00	-1.30	250.00	5.60	326.00	-.50	301.00	1.20	301.00	1.10	251.00	4.40				
350.00	-2.70	256.00	5.50	351.00	-2.20	373.00	-1.30	376.00	-1.60	276.00	2.90				
		274.00	3.70							301.00	1.50				
		301.00	.70							326.00	.40				
		325.00	.10							351.00	-.10				
		351.00	-2.20							376.00	-1.70				

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 16

DATE	630326	DATE	630404	DATE	630528	DATE	630613
SRVY	19	SRVY	20	SRVY	21	SRVY	22
TIME	1200	TIME	1200	TIME	1200	TIME	1200
213.00	7.20	201.00	7.40	0.00	9.90	209.00	7.20
225.00	5.40	219.00	7.20	46.00	10.60	224.00	7.50
250.00	2.60	225.00	5.00	55.00	12.00	232.00	7.40
279.00	.80	251.00	2.70	83.00	17.20	236.00	6.50
303.00	-.30	276.00	.90	105.00	16.70	275.00	4.10
327.00	-1.00	300.00	-.70	126.00	15.40	326.00	-1.80
		327.00	-1.20	182.00	7.80		
				203.00	7.10		
				225.00	7.20		
				242.00	7.00		
				254.00	6.30		
				262.00	4.80		
				301.00	-.10		
				316.00	-1.20		

DATE	630625	DATE	630711	DATE	630723	DATE	630806
SRVY	23	SRVY	24	SRVY	25	SRVY	26
TIME	1200	TIME	1200	TIME	1200	TIME	1200
202.00	7.30	202.00	7.30	151.00	11.90	226.00	8.00
227.00	7.60	225.00	7.80	173.00	8.20	237.00	6.40
252.00	6.30	236.00	7.80	201.00	7.20	262.00	6.60
276.00	4.30	252.00	5.40	225.00	8.10	278.00	4.80
303.00	.50	276.00	3.10	250.00	4.30	301.00	1.70
320.00	-1.10	301.00	.50	276.00	1.90	326.00	0.00
		327.00	-.50	302.00	.90	351.00	-.40
				325.00	-.30		

PROFILE 16

DATE	630820	DATE	630926	DATE	631010	DATE	631025
SRVY	27	SRVY	29	SRVY	30	SRVY	31
TIME	1200	TIME	1200	TIME	1200	TIME	1200
201.00	7.30	126.00	15.30	179.00	8.40	126.00	15.20
226.00	7.70	130.00	14.30	201.00	6.90	176.00	8.20
251.00	7.10	177.00	6.40	226.00	7.10	202.00	7.50
276.00	3.80	201.00	6.10	231.00	5.50	227.00	7.80
302.00	1.80	228.00	5.70	252.00	3.30	253.00	4.40
326.00	.50	252.00	4.60	301.00	-.30	303.00	-.30
351.00	0.00	277.00	2.60	313.00	-.80		
376.00	-1.70	302.00	.90				
		314.00	.40				
		323.00	-.50				

DATE	631115	DATE	631227	DATE	640115	DATE	640212
SRVY	32	SRVY	33	SRVY	34	SRVY	35
TIME	1200	TIME	1200	TIME	1200	TIME	1200
165.00	9.80	50.00	10.90	-303.00	6.60	123.00	17.00
170.00	7.90	87.00	17.00	-252.00	7.00	147.00	12.00
203.00	5.90	125.00	17.20	-227.00	7.00	150.00	9.10
227.00	2.90	149.00	12.90	-202.00	7.40	178.00	7.00
303.00	-3.80	176.00	9.80	-151.00	7.70	197.00	7.00
		202.00	6.60	-101.00	8.00	252.00	2.50
		252.00	3.80	-26.00	9.30	278.00	1.60
		328.00	-1.60	-1.00	12.10	302.00	1.10
				50.00	10.70	328.00	.30
				81.00	17.10	353.00	-.80
				102.00	16.70	379.00	-2.40
				124.00	17.00		
				151.00	12.00		
				153.00	8.50		
				177.00	5.90		
				202.00	4.90		
				229.00	3.30		
				253.00	2.40		
				281.00	.70		
				305.00	-.20		
				329.00	-.70		
				354.00	-1.70		
				379.00	-3.10		

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 16

DATE	640310	DATE	640407	DATE	640525	DATE	640623	DATE	640829	DATE	640920	DATE	641201	DATE	650119
SRVY	36	SRVY	37	SRVY	38	SRVY	39	SRVY	40	SRVY	41	SRVY	42	SRVY	43
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
50.00	10.70	55.00	12.20	55.00	12.20	56.00	12.20	55.00	12.20	54.00	10.70	55.00	10.70	151.00	11.40
86.00	17.30	88.00	17.10	86.00	17.30	82.00	17.40	82.00	17.30	91.00	17.10	90.00	17.10	176.00	8.00
101.00	16.80	101.00	17.70	127.00	18.30	101.00	17.00	101.00	17.10	114.00	17.10	114.00	16.80	202.00	6.40
127.00	17.20	116.00	17.90	151.00	10.80	127.00	18.50	126.00	18.70	135.00	17.40	145.00	18.60	227.00	5.10
152.00	12.10	127.00	17.10	177.00	7.70	151.00	10.70	151.00	10.80	176.00	8.40	176.00	8.50	252.00	4.30
159.00	8.40	146.00	12.00	203.00	7.10	166.00	8.30	165.00	7.80	202.00	8.80	201.00	8.50	278.00	4.40
178.00	7.00	159.00	8.40	227.00	6.80	178.00	7.00	202.00	7.50	228.00	8.90	227.00	8.10	352.00	2.50
252.00	4.80	176.00	7.30	252.00	5.90	227.00	7.90	228.00	7.60	253.00	7.70	252.00	6.30	378.00	1.90
302.00	2.10	201.00	6.70	277.00	6.10	254.00	7.40	265.00	6.90	303.00	3.60	303.00	3.80	403.00	1.00
328.00	1.10	227.00	7.00	328.00	.10	259.00	5.70	277.00	4.50	353.00	-1.40	329.00	1.10	428.00	.50
354.00	.20	252.00	5.90	353.00	-2.00	277.00	2.30	303.00	1.90					439.00	-1.50
380.00	-.70	278.00	3.80			303.00	.30	328.00	.30						
395.00	-1.90	303.00	2.10			329.00	-1.10	353.00	.20						
		354.00	.10					379.00	-.10						
		378.00	-1.50					403.00	-1.50						
		399.00	-3.40												

PROFILE 16

DATE	650427	DATE	650907	DATE	651027	DATE	651222	DATE	660125	DATE	660321	DATE	660922	DATE	670116
SRVY	44	SRVY	45	SRVY	46	SRVY	47	SRVY	48	SRVY	49	SRVY	50	SRVY	51
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
55.00	10.80	129.00	17.60	90.00	17.80	151.00	11.00	59.00	13.10	124.00	16.90	133.00	16.90	128.00	17.00
90.00	17.10	152.00	10.80	126.00	18.30	202.00	7.20	89.00	17.80	150.00	11.20	167.00	10.10	150.00	14.00
115.00	16.90	176.00	7.50	152.00	10.90	252.00	7.80	134.00	16.80	169.00	10.00	201.00	7.80	175.00	9.50
128.00	17.50	201.00	7.00	202.00	7.30	277.00	5.20	155.00	11.10	201.00	7.90	251.00	8.30	201.00	8.30
156.00	9.50	226.00	7.10	258.00	8.00	303.00	3.80	201.00	7.80	251.00	7.70	275.00	5.60	226.00	7.40
202.00	7.00	276.00	8.10	278.00	5.30	328.00	2.20	251.00	6.80	276.00	5.70	301.00	3.70	251.00	7.20
253.00	7.00	327.00	1.10	303.00	3.40	353.00	1.60	271.00	6.80	302.00	3.60	328.00	2.90	277.00	7.40
263.00	6.70	353.00	-.20	328.00	2.90	403.00	-.40	302.00	4.80	327.00	1.60	352.00	1.90	327.00	2.40
303.00	3.90	378.00	-.80	354.00	1.40	454.00	-2.40	352.00	2.30	351.00	-.50	370.00	.60	352.00	.30
353.00	.10	393.00	-2.20	394.00	-.30			392.00	1.10	366.00	-1.40	403.00	-.80	372.00	-.50
363.00	-.90											417.00	-2.20		

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 16

DATE	670510	DATE	670920	DATE	671218	DATE	680117	DATE	680227	DATE	680327	DATE	681009	DATE	681023
SRVY	53	SRVY	54	SRVY	55	SRVY	56	SRVY	57	SRVY	58	SRVY	59	SRVY	60
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
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150.00	17.40	84.00	17.40	180.00	9.50	180.00	9.80	180.00	9.80	190.00	10.10	180.00	9.80	180.00	9.80
173.00	14.80	100.00	17.20	251.00	5.80	230.00	7.00	250.00	6.50	230.00	7.30	230.00	8.10	230.00	8.20
200.00	9.80	125.00	18.50	301.00	3.40	329.00	3.90	330.00	2.80	331.00	2.60	262.00	8.80	260.00	6.70
250.00	7.10	151.00	14.60	331.00	1.80	430.00	-2.70	401.00	.10	379.00	-.80	263.00	5.80	280.00	5.90
352.00	4.00	177.00	10.10	382.00	.70			480.00	-2.80	430.00	-3.00	280.00	4.40	333.00	1.90
401.00	1.90	200.00	8.10	472.00	-2.70							330.00	.80	380.00	-1.20
452.00	0.00	249.00	5.90									380.00	-3.50	450.00	-2.60
502.00	-1.00	275.00	5.70												
		326.00	6.10												
		352.00	3.80												
		381.00	1.20												
		427.00	-1.50												

PROFILE 16

DATE	681113	DATE	681218	DATE	690115	DATE	690215	DATE	690304	DATE	690528	DATE	690924	DATE	691020
SRVY	61	SRVY	62	SRVY	63	SRVY	64	SRVY	65	SRVY	66	SRVY	67	SRVY	68
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	.1200	TIME	1200	TIME	1200	TIME	1200
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180.00	9.90	180.00	10.20	180.00	10.20	180.00	10.20	180.00	10.70	180.00	11.20	181.00	11.10	180.00	11.20
230.00	6.70	230.00	6.80	230.00	7.40	230.00	7.90	230.00	6.70	230.00	7.60	200.00	9.40	190.00	9.70
280.00	5.10	280.00	6.00	280.00	6.60	280.00	6.30	280.00	3.90	280.00	5.10	231.00	9.20	230.00	9.10
330.00	3.80	330.00	4.80	330.00	4.10	330.00	3.00	330.00	2.30	300.00	6.10	236.00	9.50	243.00	7.80
380.00	1.60	380.00	-.20	380.00	-.50	380.00	.10	380.00	1.00	330.00	1.80	281.00	2.70	280.00	8.40
430.00	-.50	430.00	-4.00	430.00	-2.80	430.00	-2.20	430.00	-1.10	380.00	-1.60	334.00	1.70	300.00	6.70
										430.00	-2.60	384.00	-2.40	333.00	3.10
														345.00	1.90
														360.00	-.20
														400.00	-1.80
														425.00	-3.20
														450.00	-3.70
														475.00	-4.80
														509.00	-3.00
														525.00	-3.00
														550.00	-3.40
														575.00	-3.40
														600.00	-3.00
														625.00	-4.80

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 16

DATE	691118	DATE	691218	DATE	700120	DATE	700216	DATE	700519	DATE	700521	DATE	700828	DATE	701012
SRVY	69	SRVY	70	SRVY	71	SRVY	72	SRVY	73	SRVY	74	SRVY	75	SRVY	76
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
180.00	11.20	180.00	11.30	180.00	11.20	180.00	11.40	180.00	11.30	180.00	11.60	82.00	17.90	45.00	11.60
200.00	9.70	200.00	9.80	197.00	10.10	198.00	10.20	197.00	10.00	198.00	10.20	100.00	17.50	81.00	17.80
230.00	9.00	230.00	9.00	230.00	8.00	250.00	7.30	230.00	8.30	230.00	8.20	130.00	17.20	100.00	17.30
260.00	7.00	261.00	6.90	280.00	4.90	280.00	6.00	261.00	7.60	280.00	6.90	150.00	15.70	127.00	16.00
280.00	6.80	280.00	6.50	284.00	4.90	330.00	4.60	280.00	7.00	330.00	4.30	200.00	10.00	132.00	18.20
298.00	6.70	301.00	6.30	309.00	5.70	350.00	3.20	300.00	4.80	343.00	3.30	210.00	9.30	150.00	15.70
330.00	5.30	330.00	4.40	330.00	3.80	380.00	.90	350.00	3.10	380.00	-.40	250.00	8.20	176.00	12.40
356.00	4.80	357.00	2.60	351.00	2.50	430.00	-2.10	380.00	0.00	393.00	-1.60	290.00	8.40	200.00	9.80
380.00	2.40	380.00	.40	380.00	.90					412.00	-2.20	300.00	7.80	215.00	8.90
400.00	1.30	430.00	-2.70	430.00	-1.70							350.00	2.30	250.00	6.20
425.00	-.30			445.00	-3.00							365.00	.50	293.00	8.40
450.00	-2.00			460.00	-3.90							400.00	-2.50	300.00	7.90
475.00	-3.00											450.00	-4.40	325.00	5.50
														350.00	3.10
														400.00	.10
														450.00	0.00
														500.00	-.40
														550.00	2.00

PROFILE 16

DATE	701207	DATE	701218	DATE	710112	DATE	710208	DATE	710308	DATE	710408	DATE	710624	DATE	710719
SRVY	77	SRVY	78	SRVY	79	SRVY	80	SRVY	81	SRVY	82	SRVY	83	SRVY	84
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
200.00	10.20	200.00	10.30	200.00	10.90	200.00	11.00	200.00	11.30	200.00	11.40	120.00	16.90	120.00	16.90
250.00	8.00	250.00	6.20	250.00	6.00	230.00	7.00	210.00	9.50	250.00	7.10	126.00	14.00	134.00	18.40
300.00	6.20	300.00	4.20	275.00	5.30	250.00	7.00	250.00	5.80	300.00	5.20	151.00	17.90	155.00	17.70
350.00	2.20	330.00	3.20	300.00	6.20	275.00	7.00	300.00	5.20	350.00	4.90	176.00	14.30	180.00	13.00
400.00	-2.30	350.00	2.60	323.00	4.20	300.00	5.30	315.00	5.10	375.00	2.40	189.00	11.70	200.00	11.20
		400.00	-.50	350.00	3.20	350.00	2.20	350.00	3.10	400.00	.60	220.00	8.50	220.00	8.90
				375.00	1.00	400.00	-.20	400.00	-.30	450.00	-2.50	250.00	8.20	250.00	6.60
				400.00	-.60	450.00	-2.90	425.00	-1.80			300.00	4.40	268.00	7.90
				450.00	-3.80							325.00	1.40	275.00	7.20
												350.00	-1.40	300.00	2.70
												400.00	-5.50	350.00	-1.70
												450.00	-7.80		

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 16

DATE	710817	DATE	711007	DATE	711214	DATE	720112	DATE	720215	DATE	720223	DATE	720313	DATE	720411
SRVY	85	SRVY	86	SRVY	87	SRVY	88	SRVY	89	SRVY	90	SRVY	91	SRVY	92
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
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100.00	16.90	100.00	16.80	200.00	10.80	200.00	11.10	200.00	11.30	200.00	12.10	200.00	11.80	200.00	11.90
120.00	16.90	120.00	17.10	250.00	8.90	250.00	8.80	250.00	8.00	250.00	6.60	250.00	6.80	250.00	7.80
133.00	18.60	129.00	18.60	300.00	7.00	300.00	7.20	300.00	6.70	300.00	5.00	300.00	6.10	295.00	7.80
158.00	17.70	151.00	16.60	350.00	4.80	350.00	2.90	330.00	3.20	350.00	4.00	350.00	3.00	300.00	7.00
189.00	12.00	176.00	14.70	400.00	.80	375.00	1.40	400.00	.40	375.00	2.30	400.00	.80	350.00	2.00
200.00	10.60	200.00	10.50	450.00	-2.70	400.00	-.40	450.00	-2.60	400.00	0.00			400.00	-2.10
220.00	9.10	220.00	9.10			425.00	-1.70			450.00	-1.80				
250.00	8.60	250.00	9.30												
260.00	8.70	300.00	5.50												
300.00	4.00	325.00	2.50												
350.00	-1.00	350.00	-.10												
375.00	-3.70	400.00	-3.20												

PROFILE 16

DATE	720828	DATE	721017	DATE	721205	DATE	730103	DATE	730214	DATE	730314	DATE	730325	DATE	730403
SRVY	93	SRVY	94	SRVY	95	SRVY	96	SRVY	97	SRVY	98	SRVY	99	SRVY	100
TIME	900	TIME	1100	TIME	1200	TIME	1200	TIME	900	TIME	1100	TIME	900	TIME	1300
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40.00	11.00	46.00	11.00	46.00	11.70	46.00	11.50	44.00	11.20	45.00	11.10	45.00	11.20	40.00	11.00
71.00	16.20	79.00	16.00	71.00	16.80	70.00	16.30	70.00	16.90	69.00	16.20	71.00	16.90	56.00	16.30
100.00	16.80	100.00	16.80	100.00	17.00	100.00	16.80	100.00	16.90	100.00	16.80	100.00	16.90	100.00	16.70
120.00	17.20	120.00	17.30	120.00	17.00	132.00	18.60	130.00	18.90	130.00	18.60	130.00	18.50	130.00	16.90
135.00	19.30	136.00	19.40	131.00	18.70	154.00	18.10	152.00	18.30	150.00	16.10	152.00	18.00	153.00	18.40
155.00	18.90	156.00	18.70	156.00	17.90	190.00	15.00	172.00	15.40	180.00	14.20	160.00	17.30	180.00	14.40
179.00	18.70	181.00	14.00	177.00	15.20	200.00	13.10	193.00	15.10	190.00	15.20	180.00	17.60	191.00	15.40
190.00	15.20	191.00	15.00	190.00	15.30	208.00	10.80	200.00	12.10	211.00	8.20	191.00	15.60	200.00	11.70
200.00	11.80	195.00	14.40	200.00	11.80	215.00	8.70	207.00	10.00	257.00	5.80	200.00	11.30	205.00	9.90
219.00	9.60	200.00	12.20	213.00	10.00	250.00	6.30	209.00	8.30	300.00	3.50	205.00	9.60	237.00	8.20
250.00	8.70	215.00	10.00	250.00	9.20	300.00	5.50	225.00	6.40	350.00	3.40	250.00	6.30	250.00	7.20
300.00	8.70	250.00	9.00	270.00	9.30	310.00	5.20	250.00	4.50	400.00	.50	300.00	4.00	300.00	3.30
313.00	6.70	300.00	6.50	294.00	4.00	350.00	2.00	276.00	3.00	450.00	-2.40	350.00	2.00	325.00	2.30
350.00	3.60	321.00	6.20	300.00	3.50	375.00	.90	300.00	3.30			400.00	-.80	350.00	.10
400.00	.60	324.00	4.10	350.00	1.50	400.00	-1.00	350.00	2.20			425.00	-1.70	400.00	-2.10
450.00	-1.40	350.00	1.10	400.00	-.50	425.00	-3.00	400.00	.20						
		400.00	-1.40	425.00	-2.00			425.00	-2.20						

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 16

DATE	730418	DATE	730430	DATE	730612
SRVY	101	SRVY	102	SRVY	103
TIME	1000	TIME	1300	TIME	1200
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45.00	11.10	45.00	11.00	45.00	11.00
68.00	16.10	95.00	16.60	75.00	16.40
100.00	16.70	132.00	17.90	100.00	16.70
129.00	18.90	158.00	18.50	121.00	16.90
152.00	18.20	185.00	18.40	133.00	16.70
180.00	19.40	196.00	16.30	159.00	17.80
192.00	14.90	215.00	9.60	182.00	19.20
200.00	11.40	250.00	7.60	192.00	15.70
208.00	9.80	285.00	6.10	200.00	12.30
250.00	6.80	300.00	4.30	215.00	9.50
282.00	8.80	350.00	-.70	250.00	8.20
300.00	6.50	375.00	-3.70	254.00	8.00
325.00	3.30			255.00	6.50
350.00	1.20			275.00	3.80
375.00	-1.50			300.00	1.00
				325.00	-1.60
				345.00	-3.20

PROFILE 17

DATE	621002	DATE	621011	DATE	621023	DATE	621029	DATE	621108	DATE	621210	DATE	630115	DATE	630121
SRVY	3	SRVY	4	SRVY	5	SRVY	6	SRVY	7	SRVY	8	SRVY	9	SRVY	10
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
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15.00	14.50	-1.00	13.50	-1.00	13.50	-1.00	13.50	21.00	14.10	29.00	13.00	-1.00	13.50	175.00	5.80
37.00	13.80	22.00	14.10	22.00	14.10	22.00	14.10	36.00	13.20	50.00	9.40	31.00	14.30	200.00	2.40
70.00	10.00	50.00	11.70	49.00	11.80	69.00	10.00	45.00	8.80	54.00	8.00	37.00	11.80	250.00	-.40
82.00	7.90	88.00	8.10	69.00	10.00	183.00	-1.90	58.00	6.80	107.00	3.10	69.00	6.80	276.00	-1.20
117.00	5.30	110.00	4.70	95.00	7.00			86.00	6.40	189.00	1.00	125.00	7.80		
150.00	1.30	143.00	1.40	139.00	2.50			132.00	2.40	216.00	-.30	142.00	7.40		
190.00	-3.00	175.00	-1.40	182.00	-2.10			176.00	-1.50	235.00	.90	151.00	7.00		
										340.00	-.70	176.00	5.80		
										390.00	-4.40	201.00	3.90		
												226.00	1.30		
												251.00	-.30		
												275.00	-1.20		

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 17

DATE	630128	DATE	630204	DATE	630212	DATE	630528	DATE	630613	DATE	630625	DATE	630711	DATE	630725
SRVY	11	SRVY	12	SRVY	13	SRVY	21	SRVY	22	SRVY	23	SRVY	24	SRVY	25
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
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31.00	14.30	-1.00	14.10	43.00	12.60	0.00	13.50	0.00	13.50	50.00	12.90	24.00	13.50	-1.00	13.50
68.00	6.80	41.00	12.90	96.00	7.40	41.00	13.00	42.00	13.40	101.00	8.00	52.00	12.50	26.00	13.60
100.00	6.80	100.00	6.60	101.00	7.40	75.00	9.40	52.00	12.90	125.00	6.20	75.00	9.20	50.00	13.20
113.00	5.30	111.00	4.80	110.00	4.90	98.00	7.50	77.00	10.00	150.00	4.80	99.00	7.40	100.00	8.50
127.00	5.00	126.00	4.70	126.00	4.90	118.00	7.10	101.00	7.90	166.00	5.00	127.00	6.80	126.00	7.40
150.00	5.70	152.00	5.40	150.00	5.80	151.00	5.30	150.00	4.50	176.00	3.50	152.00	4.90	201.00	1.70
170.00	5.50	170.00	5.30	176.00	2.50	175.00	3.20	168.00	4.60	201.00	1.40	175.00	2.40	225.00	1.30
176.00	4.60	175.00	4.30	225.00	-.60	202.00	1.40	201.00	.90	226.00	-.10	200.00	.40	252.00	.30
201.00	2.20	200.00	1.70	251.00	-2.00	226.00	.30	225.00	-.30	251.00	-1.10	226.00	-.70	277.00	-.90
251.00	.20	252.00	-.30			251.00	-1.00	251.00	-1.20						
275.00	-1.50	277.00	-1.50												

PROFILE 17

DATE	630806	DATE	630820	DATE	630906	DATE	630926	DATE	631010	DATE	631025	DATE	631115	DATE	631227
SRVY	26	SRVY	27	SRVY	28	SRVY	29	SRVY	30	SRVY	31	SRVY	32	SRVY	33
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
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50.00	12.90	0.00	13.60	0.00	13.60	0.00	13.40	43.00	13.10	76.00	9.40	75.00	9.50	0.00	13.20
100.00	8.00	26.00	13.50	24.00	14.00	25.00	14.50	74.00	9.20	100.00	8.00	127.00	7.80	18.00	13.40
127.00	7.30	50.00	12.40	52.00	13.00	51.00	12.50	98.00	7.70	124.00	7.50	153.00	6.40	41.00	15.60
151.00	5.50	75.00	9.50	101.00	8.30	76.00	9.60	128.00	7.00	151.00	7.80	178.00	4.70	52.00	15.60
177.00	5.50	100.00	7.70	176.00	4.60	101.00	8.00	151.00	3.40	226.00	1.00	202.00	2.70	65.00	11.50
201.00	5.00	149.00	5.90	226.00	2.20	127.00	5.40	177.00	2.20	253.00	.20	228.00	2.20	78.00	10.30
227.00	2.90	176.00	6.60			152.00	3.40	228.00	-1.10			253.00	-.10	102.00	8.20
252.00	.30	201.00	6.30			252.00	-.60							127.00	7.80
300.00	-2.10	226.00	3.90											152.00	6.80
		251.00	2.00											203.00	4.30
		276.00	.10											228.00	2.30
		326.00	-2.00											253.00	.90
														303.00	-3.40

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 17

DATE	640115	DATE	640212	DATE	640310	DATE	640407	DATE	640525	DATE	640623	DATE	640829	DATE	640924
SRVY	34	SRVY	35	SRVY	36	SRVY	37	SRVY	38	SRVY	39	SRVY	40	SRVY	41
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
0.00	13.30	63.00	11.70	1.00	13.30	-1.00	13.30	0.00	13.30	0.00	13.50	66.00	12.00	0.00	13.30
16.00	13.00	71.00	10.60	22.00	13.30	23.00	13.20	25.00	13.00	26.00	15.40	85.00	9.20	26.00	13.70
39.00	15.50	102.00	7.60	41.00	16.50	42.00	16.40	41.00	15.90	40.00	16.40	126.00	7.90	40.00	15.40
51.00	15.10	128.00	6.70	77.00	10.10	45.00	16.20	50.00	16.20	52.00	15.40	133.00	7.50	47.00	15.00
63.00	11.80	177.00	2.20	102.00	8.00	65.00	11.60	75.00	10.20	76.00	10.70	178.00	3.40	101.00	7.70
103.00	7.60	227.00	.20	128.00	6.60	101.00	8.00	101.00	7.90	100.00	8.20	201.00	.70	128.00	5.90
127.00	6.10	253.00	-.30	152.00	6.40	127.00	6.80	151.00	6.90	127.00	8.30	211.00	-.90	179.00	1.90
152.00	4.70	303.00	-2.10	177.00	5.70	151.00	6.20	163.00	6.30	151.00	7.10			202.00	.70
202.00	2.50			229.00	1.90	177.00	5.30	176.00	4.10	178.00	4.20			226.00	0.00
253.00	1.20			254.00	1.00	226.00	2.10	202.00	2.10	228.00	0.00			243.00	-.90
283.00	.10			279.00	.40	277.00	.10	252.00	-2.60	252.00	-1.90				
329.00	-1.60			303.00	-1.20	304.00	-1.20								
353.00	-3.20			333.00	-2.40	328.00	-2.80								

PROFILE 17

DATE	641201	DATE	650119	DATE	650427	DATE	650907	DATE	651027	DATE	651222	DATE	660125	DATE	660321
SRVY	42	SRVY	43	SRVY	44	SRVY	45	SRVY	46	SRVY	47	SRVY	48	SRVY	49
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
0.00	13.40	0.00	13.30	0.00	13.40	50.00	15.40	30.00	13.50	60.00	12.70	34.00	14.00	58.00	16.40
25.00	13.40	25.00	13.50	29.00	13.50	83.00	9.10	45.00	15.90	101.00	8.20	54.00	16.40	62.00	13.40
45.00	15.70	44.00	15.70	46.00	15.70	100.00	7.80	61.00	12.80	129.00	8.10	64.00	15.30	81.00	9.00
65.00	11.90	66.00	11.90	57.00	15.40	125.00	7.40	91.00	9.70	131.00	7.00	69.00	12.40	101.00	7.50
101.00	8.90	77.00	11.30	83.00	9.10	156.00	7.70	102.00	7.90	151.00	6.30	101.00	7.50	125.00	7.80
126.00	7.60	101.00	8.90	101.00	7.70	159.00	6.00	156.00	7.80	201.00	3.00	150.00	3.40	150.00	7.30
177.00	3.20	127.00	7.60	126.00	7.00	176.00	4.00	177.00	6.80	226.00	1.60	201.00	1.40	201.00	4.10
202.00	1.00	177.00	3.20	177.00	6.40	202.00	1.60	226.00	2.80	252.00	-.10	251.00	-.90	251.00	1.00
227.00	.20	203.00	1.10	228.00	2.40	227.00	-.30	252.00	.40	277.00	-1.30			276.00	-.30
		227.00	.20	277.00	-.40	278.00	-2.40	278.00	-1.30	303.00	-2.30			302.00	-2.40
				303.00	-3.20			302.00	-2.10					317.00	-2.90

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 17

DATE 660922		DATE 670118		DATE 670510		DATE 670920		DATE 671218		DATE 680117		DATE 680227		DATE 680327	
SRVY	50	SRVY	51	SRVY	53	SRVY	54	SRVY	55	SRVY	56	SRVY	57	SRVY	58
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
54.00	16.40	51.00	16.40	54.00	16.00	54.00	16.10	54.00	16.20	50.00	16.30	45.00	15.00	52.00	15.90
65.00	13.40	59.00	16.80	60.00	15.80	87.00	9.90	65.00	16.00	59.00	16.80	60.00	16.60	59.00	16.20
73.00	10.20	69.00	11.20	70.00	13.20	124.00	6.20	87.00	10.00	79.00	10.90	80.00	14.40	90.00	9.70
99.00	8.90	77.00	11.00	94.00	8.40	151.00	5.50	125.00	6.00	100.00	8.40	90.00	10.20	149.00	5.90
125.00	9.10	101.00	8.40	126.00	6.60	177.00	5.00	150.00	4.50	151.00	5.50	100.00	8.90	200.00	4.70
151.00	5.50	152.00	5.90	151.00	5.80	201.00	4.20	177.00	5.40	200.00	5.50	150.00	5.30	229.00	4.70
177.00	3.30	177.00	6.50	176.00	6.30	225.00	2.30	201.00	3.20	250.00	1.70	200.00	2.30	300.00	-.60
201.00	2.30	191.00	6.30	201.00	6.30	252.00	.80	252.00	.50	300.00	-1.00	249.00	0.00	325.00	-2.70
251.00	1.00	252.00	1.30	252.00	1.80	277.00	-.70	277.00	-.90	325.00	-2.20	300.00	-2.30	349.00	-3.80
302.00	-.30	278.00	.30	277.00	-.30	302.00	-2.60	302.00	-2.00	350.00	-2.90				
327.00	-.80	292.00	-.60	302.00	-1.50										

PROFILE 17

DATE 681009		DATE 681023		DATE 681113		DATE 681218		DATE 690115		DATE 690213		DATE 690304		DATE 690528	
SRVY	59	SRVY	60	SRVY	61	SRVY	62	SRVY	63	SRVY	64	SRVY	65	SRVY	66
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
45.00	16.00	45.00	15.70	55.00	16.40	45.00	16.30	40.00	15.90	40.00	15.80	45.00	15.90	25.00	14.00
60.00	16.30	60.00	16.50	62.00	16.20	60.00	16.50	60.00	16.70	55.00	16.00	60.00	16.80	40.00	15.60
70.00	13.30	70.00	13.10	70.00	14.60	70.00	14.60	70.00	15.00	60.00	16.70	87.00	10.80	54.00	16.20
88.00	9.70	90.00	9.60	90.00	9.70	85.00	10.50	87.00	10.30	70.00	14.90	99.00	9.10	63.00	16.20
100.00	8.80	100.00	8.80	100.00	8.60	100.00	8.40	100.00	8.80	90.00	10.10	100.00	7.40	70.00	14.80
150.00	8.70	150.00	8.70	150.00	5.80	150.00	6.20	150.00	7.10	100.00	9.30	125.00	4.80	89.00	10.00
172.00	8.00	165.00	8.50	200.00	4.40	200.00	4.80	200.00	5.80	125.00	8.30	150.00	3.10	100.00	8.00
175.00	6.50	170.00	7.40	250.00	2.40	220.00	4.70	220.00	5.40	150.00	7.00	200.00	2.00	150.00	7.60
200.00	3.50	200.00	5.70	300.00	0.00	250.00	2.90	250.00	3.40	175.00	5.70	250.00	1.00	200.00	7.30
225.00	2.00	250.00	2.90	325.00	-1.50	275.00	1.30	275.00	1.50	200.00	3.50	300.00	-.80	241.00	6.90
250.00	.80	275.00	3.70			300.00	-.50	300.00	-.80	225.00	1.90			250.00	5.30
275.00	-1.00	300.00	.40			325.00	-2.40	325.00	-2.20	250.00	.30			275.00	2.10
300.00	-2.20	355.00	-1.60							275.00	-1.00			300.00	-.70
										300.00	-2.70			325.00	-2.80
														350.00	-3.50

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 17

DATE	690920	DATE	691020	DATE	691118	DATE	691218	DATE	700120	DATE	700216	DATE	700319	DATE	700521
SRVY	67	SRVY	68	SRVY	69	SRVY	70	SRVY	71	SRVY	72	SRVY	73	SRVY	74
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
30.00	13.00	15.00	13.40	15.00	13.90	15.00	13.40	15.00	13.40	20.00	15.70	16.00	13.60	16.00	13.60
56.00	17.00	52.00	16.30	53.00	16.40	22.00	14.50	44.00	15.60	58.00	17.10	22.00	14.50	53.00	16.80
84.00	16.60	58.00	17.30	60.00	17.40	29.00	14.00	53.00	16.50	68.00	16.30	29.00	14.10	62.00	17.40
91.00	9.50	100.00	8.70	95.00	9.70	60.00	17.20	61.00	17.20	85.00	11.50	47.00	15.70	77.00	14.10
100.00	8.80	115.00	7.90	100.00	9.40	69.00	15.20	77.00	13.00	100.00	9.80	61.00	17.60	100.00	9.80
117.00	8.30	125.00	8.10	130.00	8.70	77.00	12.80	89.00	10.50	150.00	8.50	78.00	13.10	150.00	7.60
158.00	8.30	150.00	8.30	175.00	6.00	95.00	9.70	100.00	9.60	200.00	5.70	100.00	11.80	200.00	6.40
175.00	7.00	175.00	8.00	200.00	5.90	125.00	8.80	131.00	8.70	203.00	4.20	150.00	9.40	250.00	1.40
200.00	5.20	200.00	5.60	221.00	6.00	171.00	8.10	150.00	7.20	250.00	3.70	200.00	6.60	296.00	-2.70
225.00	2.80	250.00	3.30	250.00	3.40	200.00	5.40	198.00	4.70	300.00	1.20	250.00	3.00		
250.00	1.30	300.00	1.50	275.00	1.80	225.00	3.10	237.00	5.70	350.00	-1.20	300.00	.00		
275.00	-.20	350.00	.10	300.00	0.00	250.00	1.50	250.00	4.50			350.00	-1.80		
300.00	-1.90	400.00	-.50	325.00	-1.70	275.00	1.00	300.00	1.00			362.00	-2.50		
325.00	-2.70	450.00	-1.20	340.00	-2.40	300.00	-.60	385.00	-1.30						
		500.00	-1.90			325.00	-2.10								
		550.00	-2.70			343.00	-3.10								

PROFILE 17

DATE	700828	DATE	701012	DATE	701207	DATE	701218	DATE	710112	DATE	710208	DATE	710308	DATE	710408
SRVY	75	SRVY	76	SRVY	77	SRVY	78	SRVY	79	SRVY	80	SRVY	81	SRVY	82
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
0.00	13.40	15.00	13.60	0.00	13.40	0.00	13.40	15.00	13.70	30.00	14.20	0.00	13.50	0.00	13.50
15.00	13.50	31.00	14.10	15.00	13.50	16.00	13.60	22.00	14.50	56.00	17.90	15.00	13.60	25.00	14.50
30.00	14.10	52.00	16.50	51.00	16.10	21.00	14.40	30.00	14.20	70.00	16.70	21.00	14.50	55.00	17.60
56.00	17.50	60.00	17.50	60.00	17.50	29.00	14.20	58.00	17.90	90.00	12.00	43.00	15.20	70.00	17.10
77.00	13.50	74.00	14.70	75.00	15.00	55.00	17.20	68.00	17.00	100.00	10.60	58.00	17.70	100.00	10.00
100.00	9.90	76.00	13.10	100.00	10.30	70.00	17.00	76.00	15.50	150.00	7.00	74.00	15.90	150.00	5.60
150.00	8.10	100.00	9.90	150.00	8.50	100.00	10.50	100.00	10.50	200.00	4.00	84.00	12.80	200.00	5.10
200.00	8.30	150.00	7.90	200.00	6.80	150.00	7.70	150.00	6.20	250.00	1.50	100.00	10.20	208.00	5.10
250.00	1.20	190.00	7.90	250.00	3.80	200.00	4.80	200.00	4.20	290.00	0.00	151.00	5.20	250.00	1.60
300.00	-2.10	200.00	6.10	300.00	-1.30	235.00	4.30	215.00	5.70			166.00	4.80	300.00	-1.90
345.00	-3.50	250.00	1.60			250.00	3.20	250.00	2.70			200.00	5.20		
359.00	-2.00	300.00	0.00			275.00	1.30	300.00	-1.30			212.00	5.00		
400.00	-2.50	350.00	-.80			300.00	-.20	325.00	-2.40			250.00	2.10		
450.00	-4.00	400.00	-1.90									300.00	-2.00		
		450.00	-3.10												

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 17

DATE	710624	DATE	710817	DATE	711007	DATE	711214	DATE	720112	DATE	720215	DATE	720223	DATE	720313
SRVY	83	SRVY	85	SRVY	86	SRVY	87	SRVY	88	SRVY	89	SRVY	90	SRVY	91
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
25.00	14.30	28.00	14.20	13.00	13.60	15.00	14.10	15.00	14.20	15.00	13.50	15.00	13.70	16.00	13.50
44.00	15.40	58.00	17.60	32.00	14.40	43.00	15.60	35.00	14.70	22.00	14.90	27.00	14.60	55.00	17.20
58.00	17.90	73.00	16.60	63.00	17.70	62.00	18.00	57.00	18.00	40.00	14.90	37.00	14.50	63.00	18.00
70.00	16.40	77.00	14.20	78.00	14.20	71.00	17.50	72.00	17.30	60.00	18.10	62.00	17.90	77.00	16.50
100.00	10.20	100.00	10.40	100.00	10.60	100.00	9.70	79.00	14.20	72.00	16.80	70.00	17.40	100.00	8.40
150.00	8.00	121.00	8.30	105.00	9.00	150.00	6.70	100.00	10.00	100.00	10.00	79.00	15.20	150.00	5.40
200.00	4.30	156.00	8.00	150.00	5.60	200.00	5.10	116.00	8.50	132.00	6.60	89.00	8.80	200.00	3.60
250.00	.30	175.00	5.80	200.00	.70	250.00	.40	150.00	7.80	150.00	6.10	100.00	7.50	250.00	.90
300.00	-4.10	200.00	2.80	250.00	-2.30	300.00	-2.90	200.00	3.20	172.00	5.20	150.00	4.50	275.00	-.10
		236.00	-1.70					250.00	-.30	200.00	3.10	186.00	4.60	300.00	-1.50
		250.00	-2.70					275.00	-1.80	250.00	.10	200.00	3.60		
										300.00	-2.40	250.00	.60		
												279.00	-1.40		

PROFILE 17

DATE	720411	DATE	720824	DATE	721017	DATE	721205	DATE	730103	DATE	730214	DATE	730314	DATE	730325
SRVY	92	SRVY	93	SRVY	94	SRVY	95	SRVY	96	SRVY	97	SRVY	98	SRVY	99
TIME	1200	TIME	900	TIME	1100	TIME	1200	TIME	1300	TIME	1000	TIME	1100	TIME	1000
15.00	13.70	15.00	14.00	15.00	14.00	15.00	13.50	0.00	13.50	15.00	14.00	15.00	13.90	15.00	14.10
23.00	14.70	33.00	14.20	23.00	14.50	60.00	18.30	15.00	14.20	20.00	14.80	56.00	18.50	20.00	14.80
31.00	14.30	60.00	18.00	57.00	18.10	72.00	16.90	25.00	14.70	32.00	14.40	71.00	17.10	32.00	14.30
60.00	17.90	73.00	17.30	73.00	17.10	80.00	12.70	34.00	14.50	56.00	18.20	79.00	12.30	57.00	18.50
75.00	16.30	77.00	13.60	80.00	12.20	100.00	10.00	60.00	18.20	70.00	17.50	85.00	11.30	72.00	17.40
79.00	12.20	100.00	9.50	100.00	10.00	150.00	8.10	72.00	16.80	80.00	13.00	89.00	9.40	78.00	15.90
100.00	8.80	152.00	8.20	150.00	7.20	200.00	3.50	80.00	13.20	88.00	11.50	100.00	7.40	80.00	13.00
126.00	7.50	163.00	6.50	183.00	5.00	250.00	1.50	94.00	10.30	91.00	7.90	150.00	5.90	84.00	11.10
145.00	5.20	200.00	5.60	200.00	2.90	300.00	-1.00	100.00	9.40	100.00	6.90	183.00	3.80	88.00	9.90
164.00	5.30	250.00	1.10	250.00	-.50	325.00	-2.90	150.00	6.20	146.00	3.10	200.00	4.50	100.00	8.50
200.00	2.80	290.00	-2.00	275.00	-2.20			200.00	5.40	173.00	3.40	221.00	5.20	150.00	5.30
250.00	-1.20							250.00	.70	200.00	2.00	250.00	.90	200.00	3.40
278.00	-2.20							300.00	-2.40	250.00	.70	300.00	-2.10	250.00	1.90
										300.00	-2.00			300.00	-1.80

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 17

DATE 730403		DATE 730418		DATE 730612	
SRVY	100	SRVY	101	SRVY	103
TIME	1300	TIME	1000	TIME	1300
----	------	----	------	----	------
14.00	13.10	15.00	13.90	0.00	13.90
31.00	14.20	21.00	14.80	14.00	14.00
57.00	18.20	56.00	18.10	24.00	14.60
70.00	17.50	74.00	16.60	35.00	14.50
74.00	16.30	100.00	8.50	59.00	18.20
86.00	11.40	150.00	7.80	70.00	17.60
90.00	9.90	192.00	5.20	74.00	16.40
100.00	8.70	200.00	5.50	80.00	12.70
114.00	7.50	211.00	5.70	100.00	9.00
150.00	7.90	250.00	1.70	150.00	7.60
160.00	7.70	300.00	-1.40	200.00	6.90
200.00	4.20			218.00	7.00
250.00	1.10			250.00	2.30
300.00	-2.00			275.00	-.30
				300.00	-1.80

PROFILE 18

DATE 621002		DATE 621011		DATE 621023		DATE 621029	
SRVY	3	SRVY	4	SRVY	5	SRVY	6
TIME	1200	TIME	1200	TIME	1200	TIME	1200
----	------	----	------	----	------	----	------
168.00	14.90	221.00	12.90	194.00	13.50	201.00	14.60
192.00	14.10	278.00	9.40	226.00	12.30	258.00	10.40
304.00	8.80	311.00	6.90	281.00	9.30	279.00	9.20
346.00	9.50	342.00	9.40	314.00	8.90	314.00	8.70
387.00	6.10	367.00	9.20	364.00	10.20	360.00	9.80
430.00	1.60	395.00	5.40	378.00	7.00	472.00	-.20
465.00	-1.40	422.00	2.50	423.00	1.20		
		459.00	-.30				

DATE 621108		DATE 621210		DATE 630115		DATE 630121	
SRVY	7	SRVY	8	SRVY	9	SRVY	10
TIME	1200	TIME	1200	TIME	1200	TIME	1200
----	------	----	------	----	------	----	------
202.00	14.60	199.00	15.60	0.00	8.80	301.00	9.90
229.00	13.00	218.00	12.30	194.00	15.40	339.00	7.90
244.00	11.50	307.00	10.10	195.00	15.00	360.00	4.90
284.00	9.40	340.00	6.20	203.00	15.50	401.00	.30
337.00	10.00	369.00	6.10	225.00	12.00	427.00	-1.10
366.00	7.80	563.00	-3.20	250.00	10.00		
386.00	4.70	604.00	-4.30	275.00	9.80		
394.00	3.30			300.00	9.90		
441.00	-.20			325.00	8.00		
				360.00	7.00		
				401.00	1.50		
				426.00	-.10		
				436.00	-1.20		

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 18

DATE 630128		DATE 630204		DATE 630212		DATE 630220		DATE 630226		DATE 630304		DATE 630311		DATE 630319	
SRVY	11	SRVY	12	SRVY	13	SRVY	14	SRVY	15	SRVY	16	SRVY	17	SRVY	18
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
300.00	9.90	300.00	9.90	276.00	9.80	250.00	10.00	339.00	6.90	299.00	9.50	300.00	9.40	328.00	8.00
351.00	5.60	327.00	8.20	301.00	9.50	277.00	9.50	377.00	5.80	326.00	6.00	323.00	8.00	350.00	7.10
361.00	5.00	339.00	7.00	302.00	6.90	301.00	9.50	402.00	2.90	341.00	7.40	351.00	7.20	370.00	6.60
379.00	5.00	371.00	6.30	377.00	4.00	326.00	8.20	426.00	1.30	350.00	6.90	401.00	2.40	402.00	4.20
401.00	2.30	376.00	5.50	401.00	1.40	341.00	6.70	451.00	.90	376.00	4.90	451.00	-.20	450.00	.90
451.00	-1.70	402.00	2.50	452.00	-.10	380.00	3.90	476.00	-.20	400.00	2.80	475.00	-1.10	476.00	0.00
		451.00	.20	466.00	-1.60	401.00	2.60	501.00	-1.00	426.00	1.00			501.00	-1.00
		467.00	-1.20			451.00	0.00			451.00	0.00				
						475.00	-.90			476.00	-2.20				

PROFILE 18

DATE 630326		DATE 630404		DATE 630528		DATE 630613		DATE 630625		DATE 630711		DATE 630723		DATE 630806	
SRVY	19	SRVY	20	SRVY	21	SRVY	22	SRVY	23	SRVY	24	SRVY	25	SRVY	26
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
301.00	9.20	250.00	10.10	-1.00	8.80	250.00	10.20	200.00	15.60	201.00	15.50	225.00	12.00	251.00	10.60
325.00	7.80	275.00	9.40	50.00	9.80	300.00	9.00	270.00	9.80	226.00	11.90	251.00	9.90	276.00	9.00
351.00	7.50	301.00	9.40	151.00	10.90	350.00	7.30	326.00	8.70	250.00	9.40	300.00	9.00	301.00	9.00
377.00	6.60	325.00	8.20	198.00	16.50	401.00	8.30	349.00	7.70	276.00	9.20	326.00	8.50	326.00	8.10
452.00	2.50	351.00	6.00	209.00	9.80	426.00	6.50	375.00	7.40	326.00	7.50	349.00	7.60	350.00	7.40
476.00	.90	402.00	5.00	301.00	8.80	451.00	2.00	400.00	8.30	375.00	8.40	376.00	7.50	401.00	8.50
501.00	-.80	451.00	1.80	350.00	8.10	475.00	1.90	426.00	7.60	401.00	8.00	427.00	8.80	426.00	7.10
		477.00	.80	373.00	7.50	526.00	-.70	476.00	1.40	455.00	2.20	476.00	3.60	450.00	7.60
		501.00	-1.00	414.00	7.50			501.00	0.00	477.00	-.10	501.00	2.20	475.00	6.00
		527.00	-1.50	426.00	6.00			528.00	-.50	502.00	-1.10	526.00	1.90	527.00	.40
				452.00	2.20			552.00	-1.20			552.00	.90	551.00	-1.10
				475.00	.30							577.00	1.00		
				501.00	.20							602.00	-.60		
				526.00	-1.10										

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 1A

DATE	630820	DATE	630906	DATE	630926	DATE	631010	DATE	631025	DATE	631115	DATE	631227	DATE	640115
SRVY	27	SRVY	28	SRVY	29	SRVY	30	SRVY	31	SRVY	32	SRVY	33	SRVY	34
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
251.00	10.00	301.00	8.90	252.00	10.00	329.00	8.30	195.00	16.50	195.00	16.50	152.00	14.90	-305.00	7.30
302.00	8.80	323.00	8.40	302.00	8.60	352.00	8.60	225.00	12.20	251.00	10.60	182.00	15.10	-204.00	7.80
326.00	7.80	351.00	8.80	329.00	8.30	379.00	8.20	254.00	10.50	277.00	9.60	200.00	16.50	-103.00	8.10
352.00	7.50	374.00	8.80	352.00	8.80	428.00	4.00	278.00	9.80	302.00	10.10	215.00	13.70	-21.00	9.60
376.00	8.40	425.00	4.00	377.00	8.60	457.00	2.40	302.00	8.80	328.00	6.90	227.00	13.00	-1.00	6.90
426.00	8.30	452.00	3.30	429.00	2.00	505.00	.60	325.00	8.40	353.00	2.90	238.00	10.90	49.00	9.90
452.00	5.30			457.00	2.40	555.00	0.00	355.00	8.70	379.00	.10	251.00	11.00	110.00	13.40
502.00	1.60			479.00	2.40	606.00	-1.00	378.00	8.80	403.00	.90	277.00	9.30	150.00	15.00
532.00	.40			504.00	2.00			404.00	6.90	429.00	.40	327.00	9.30	180.00	15.00
579.00	-1.60			529.00	1.30			431.00	4.30	453.00	.50	353.00	8.20	200.00	16.40
				580.00	.60			454.00	1.70	504.00	0.00	376.00	6.70	219.00	13.90
								479.00	1.00	529.00	-.30	404.00	4.80	236.00	10.90
										555.00	-.80	455.00	0.00	251.00	9.80
										581.00	-1.00	480.00	-.50	302.00	9.10
												508.00	-.10	331.00	7.80
												531.00	-.20	352.00	6.50
												584.00	-.90	403.00	3.60
												631.00	-1.80	428.00	2.50
														454.00	1.30
														477.00	0.00
														505.00	-1.30
														529.00	-1.90
														554.00	-1.20
														604.00	-1.30
														630.00	-2.70

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 18

DATE	640212	DATE	640310	DATE	640407	DATE	640525	DATE	640623	DATE	640829	DATE	640924	DATE	641201
SRVY	35	SRVY	36	SRVY	37	SRVY	38	SRVY	39	SRVY	40	SRVY	41	SRVY	42
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
199.00	16.50	179.00	15.00	179.00	15.10	189.00	15.50	193.00	16.00	193.00	16.20	190.00	16.20	199.00	15.40
281.00	11.20	198.00	16.50	197.00	17.00	200.00	16.90	217.00	13.40	222.00	14.90	217.00	15.70	264.00	9.70
251.00	10.20	208.00	15.10	217.00	16.10	216.00	15.70	241.00	10.90	274.00	9.50	240.00	10.90	276.00	10.10
276.00	9.10	218.00	15.40	201.00	11.20	237.00	11.40	252.00	9.80	301.00	9.20	273.00	9.50	301.00	9.80
301.00	8.90	239.00	10.90	277.00	9.40	250.00	10.40	272.00	9.30	325.00	9.40	302.00	9.00	351.00	3.30
327.00	7.90	251.00	10.00	302.00	8.90	272.00	9.40	303.00	9.20	337.00	9.00	326.00	9.30	377.00	.30
351.00	5.90	278.00	9.10	327.00	6.80	301.00	8.60	327.00	8.30	372.00	5.80	352.00	8.90	402.00	-1.50
403.00	3.20	310.00	8.90	352.00	5.60	352.00	8.10	369.00	5.20	418.00	.10	402.00	3.20		
429.00	2.60	328.00	7.50	429.00	1.60	377.00	6.90	379.00	0.50			438.00	.50		
478.00	.70	370.00	6.00	504.00	-.50	402.00	5.10	402.00	2.10						
503.00	.10	377.00	5.90	526.00	-1.80	494.00	-2.60	438.00	-1.90						
		403.00	3.90												
		453.00	1.10												
		480.00	-.20												
		505.00	-1.10												
		529.00	-1.80												

PROFILE 18

DATE	650119	DATE	650427	DATE	650907	DATE	651027	DATE	651222	DATE	660125	DATE	660321	DATE	660922
SRVY	43	SRVY	44	SRVY	45	SRVY	46	SRVY	47	SRVY	48	SRVY	49	SRVY	50
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
179.00	15.00	205.00	16.10	204.00	15.90	200.00	15.90	215.00	16.10	190.00	16.20	238.00	16.80	250.00	15.50
250.00	13.40	218.00	16.70	210.00	15.80	215.00	16.20	234.00	12.10	205.00	17.00	244.00	13.90	267.00	11.90
276.00	12.90	238.00	11.80	238.00	11.70	240.00	11.60	250.00	11.70	235.00	15.00	259.00	13.30	301.00	9.70
291.00	12.90	251.00	11.00	250.00	10.70	300.00	9.40	300.00	9.70	251.00	13.30	300.00	9.20	351.00	6.40
301.00	11.30	301.00	9.70	275.00	10.10	334.00	9.40	321.00	9.70	301.00	9.20	350.00	7.70	389.00	2.90
325.00	9.60	402.00	1.10	300.00	9.10	352.00	7.80	326.00	8.50	351.00	4.30	371.00	7.50	427.00	-.30
351.00	6.90	433.00	0.00	326.00	8.80	378.00	6.30	350.00	6.50	376.00	1.80	402.00	3.70	452.00	-.20
401.00	4.70			357.00	9.10	401.00	4.50	376.00	2.40	390.00	0.00	427.00	.60	502.00	.80
426.00	3.00			377.00	5.60	447.00	-.40	402.00	.50			477.00	.20	552.00	-.20
452.00	1.90			402.00	3.00			426.00	.60			577.00	.10	578.00	-.30
467.00	.80			428.00	0.00			452.00	.40			603.00	0.00		
				453.00	-2.90			502.00	0.00			653.00	-1.20		
								553.00	-1.00						
								578.00	-1.60						

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 18

DATE 670116		DATE 670510		DATE 670920		DATE 671218		DATE 680117		DATE 680227		DATE 680327		DATE 681009	
SRVY	51	SRVY	53	SRVY	54	SRVY	55	SRVY	56	SRVY	57	SRVY	58	SRVY	59
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
238.00	17.10	243.00	15.80	250.00	15.40	240.00	16.10	240.00	17.60	240.00	16.30	235.00	17.90	233.00	16.80
250.00	14.70	250.00	15.30	280.00	10.00	250.00	16.10	251.00	15.30	255.00	16.80	242.00	17.40	244.00	16.60
256.00	15.60	274.00	11.20	301.00	8.90	258.00	15.10	261.00	11.80	269.00	11.70	264.00	11.50	265.00	12.40
271.00	11.80	301.00	7.60	325.00	9.40	278.00	11.10	300.00	8.20	300.00	8.50	324.00	5.50	300.00	9.60
300.00	8.70	326.00	5.00	351.00	8.80	301.00	9.60	350.00	5.30	350.00	4.70	349.00	6.20	325.00	8.70
326.00	7.40	351.00	3.20	380.00	6.80	351.00	6.50	400.00	2.80	400.00	2.20	364.00	6.90	353.00	7.90
351.00	5.50	376.00	2.40	402.00	3.30	401.00	3.30	450.00	1.80	450.00	.40	400.00	2.50	375.00	5.90
376.00	3.30	402.00	1.40	427.00	.90	426.00	.70	500.00	.40	500.00	-1.70	500.00	-1.40	400.00	3.50
402.00	2.50	453.00	.30	452.00	-.20	462.00	.80	549.00	-1.20					425.00	2.00
426.00	1.90	478.00	-1.10	478.00	1.50	502.00	1.80	601.00	-1.90					450.00	.10
451.00	1.00			502.00	1.40	552.00	.80							475.00	.10
483.00	.80			528.00	.90	603.00	-.80							500.00	.30
502.00	.30			552.00	.10	633.00	-1.30							525.00	.10
527.00	-.10			577.00	0.00									575.00	-.90
				603.00	-.70									600.00	-1.50
				628.00	-1.90										

PROFILE 18

DATE 681023		DATE 681113		DATE 681218		DATE 690115		DATE 690213		DATE 690308		DATE 690528		DATE 690924	
SRVY	60	SRVY	61	SRVY	62	SRVY	63	SRVY	64	SRVY	65	SRVY	66	SRVY	67
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
240.00	17.10	240.00	17.60	237.00	18.00	239.00	18.30	238.00	18.00	247.00	18.10	235.00	18.90	235.00	17.10
246.00	16.50	250.00	17.60	244.00	18.10	247.00	17.90	247.00	18.00	257.00	14.60	242.00	16.50	244.00	17.30
265.00	12.20	270.00	12.00	255.00	14.80	257.00	15.50	257.00	15.20	270.00	11.50	255.00	15.90	300.00	8.50
300.00	9.80	300.00	9.10	267.00	11.80	270.00	12.00	270.00	12.10	300.00	8.50	272.00	13.90	305.00	6.30
325.00	9.00	350.00	6.20	300.00	8.90	300.00	9.20	300.00	9.10	350.00	5.60	296.00	7.70	325.00	6.60
350.00	7.60	405.00	4.30	350.00	6.80	350.00	7.30	325.00	7.40	400.00	4.60	350.00	8.60	358.00	9.20
375.00	5.50	450.00	.90	400.00	4.60	368.00	6.70	350.00	4.50	450.00	3.70	385.00	8.60	367.00	4.60
400.00	4.20	500.00	.80	450.00	1.70	400.00	4.70	375.00	2.50	500.00	3.30	400.00	6.10	400.00	3.50
425.00	1.60	550.00	1.00	500.00	-.30	450.00	1.70	400.00	1.70	550.00	2.00	425.00	2.60	425.00	2.50
450.00	.60	600.00	.70			500.00	.60	450.00	.20	600.00	.90	450.00	-.10	450.00	1.60
500.00	-.40					550.00	.40	500.00	-1.60	650.00	-.90	500.00	-.50	475.00	.90
550.00	-1.90					600.00	-.40					550.00	-1.40	500.00	.20
600.00	-2.90					650.00	-1.20					630.00	-1.90	525.00	-.60
						700.00	-1.60					650.00	-1.90	550.00	-.90
														575.00	-1.40
														600.00	-1.70

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 18

DATE	691020	DATE	691118	DATE	691218	DATE	700120	DATE	700216	DATE	700319	DATE	700521	DATE	700828
SRVY	68	SRVY	69	SRVY	70	SRVY	71	SRVY	72	SRVY	73	SRVY	74	SRVY	75
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
----	------	----	------	----	------	----	------	----	------	----	------	----	------	----	------
200.00	15.40	198.00	15.20	190.00	15.20	206.00	15.60	237.00	17.60	200.00	15.60	182.00	15.10	186.00	15.10
229.00	17.90	230.00	18.40	228.00	18.70	228.00	18.00	250.00	17.60	214.00	16.00	200.00	15.70	200.00	16.60
244.00	18.40	243.00	18.80	245.00	18.90	250.00	18.90	264.00	16.00	249.00	17.60	246.00	17.60	229.00	18.50
264.00	15.00	265.00	14.90	268.00	15.00	300.00	10.20	300.00	9.60	262.00	17.00	262.00	17.00	240.00	16.60
300.00	8.50	300.00	9.90	295.00	10.70	350.00	6.90	325.00	8.10	298.00	10.00	290.00	11.00	250.00	17.90
334.00	9.30	325.00	6.80	350.00	6.40	370.00	6.50	350.00	6.40	350.00	6.10	300.00	10.00	263.00	17.00
344.00	6.60	350.00	5.00	400.00	4.00	400.00	4.70	400.00	4.20	400.00	2.60	334.00	7.10	300.00	9.70
375.00	4.60	400.00	2.50	450.00	2.60	450.00	2.80	450.00	2.70	450.00	1.40	377.00	7.90	350.00	7.60
400.00	3.70	450.00	1.10	500.00	2.20	500.00	2.60	500.00	1.70	500.00	.50	400.00	5.10	400.00	6.70
429.00	2.00	500.00	.60	550.00	1.40	550.00	1.60	550.00	1.20	550.00	-.70	450.00	1.50	450.00	3.20
450.00	2.20	550.00	.40	600.00	.40	600.00	.50	590.00	.20	592.00	-1.90	500.00	-1.50	500.00	.70
500.00	2.20	600.00	.40	650.00	-.70	650.00	-.40					513.00	-2.50	550.00	-.70
550.00	1.60	650.00	-.80	675.00	-1.50	663.00	-.80							600.00	-2.00
600.00	.80	675.00	-.60	697.00	-2.50									650.00	-3.30
650.00	-.10	700.00	-2.10												
700.00	-2.30														

PROFILE 18

DATE	701012	DATE	701207	DATE	701218	DATE	710112	DATE	710208	DATE	710308	DATE	710408	DATE	710624
SRVY	76	SRVY	77	SRVY	78	SRVY	79	SRVY	80	SRVY	81	SRVY	82	SRVY	83
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
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200.00	15.60	200.00	15.60	182.00	14.60	200.00	15.60	240.00	16.70	200.00	15.80	230.00	18.50	150.00	14.20
231.00	18.20	243.00	17.10	227.00	18.10	222.00	17.20	260.00	17.20	212.00	16.40	262.00	17.20	200.00	15.80
250.00	17.50	250.00	17.60	250.00	18.10	241.00	18.30	275.00	12.60	228.00	18.70	278.00	11.70	227.00	16.40
261.00	16.80	260.00	14.70	265.00	17.00	250.00	17.90	300.00	9.70	249.00	19.00	300.00	9.70	246.00	17.50
300.00	9.50	300.00	9.00	300.00	9.80	261.00	17.00	310.00	8.60	254.00	17.70	350.00	5.90	259.00	17.50
350.00	8.70	450.00	5.90	350.00	5.80	275.00	12.40	360.00	5.10	265.00	17.10	400.00	3.40	277.00	11.70
370.00	8.60	475.00	4.80	400.00	3.80	318.00	7.60	410.00	3.30	284.00	11.40	450.00	.40	300.00	9.60
400.00	5.00	500.00	3.40	425.00	2.70	345.00	6.50	460.00	1.70	300.00	9.70	500.00	-.60	338.00	9.00
450.00	1.80	550.00	1.20	450.00	1.60	382.00	3.50	505.00	.20	350.00	6.60	550.00	-1.60	350.00	7.70
500.00	.70	600.00	.50	475.00	.80	400.00	2.50			375.00	6.30			400.00	2.20
550.00	-.50	650.00	-.40	500.00	.10	450.00	1.40			400.00	4.50			450.00	-.40
600.00	-1.90					500.00	.30			425.00	2.00			500.00	-1.40
640.00	-3.80					550.00	-2.10			450.00	.50			550.00	[illegible]
										475.00	.50				
										500.00	.60				
										525.00	.30				
										550.00	-.50				
										565.00	-1.40				

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 18

DATE	710817	DATE	711007	DATE	711214	DATE	720112	DATE	720215	DATE	720223	DATE	720313	DATE	720411
SRVY	85	SRVY	86	SRVY	87	SRVY	88	SRVY	89	SRVY	90	SRVY	91	SRVY	92
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
150.00	14.20	182.00	15.10	185.00	15.00	200.00	15.60	185.00	14.90	185.00	15.10	183.00	15.00	189.00	14.60
200.00	15.50	200.00	15.60	200.00	15.70	230.00	18.50	200.00	15.80	200.00	15.50	216.00	17.20	200.00	14.70
234.00	17.20	250.00	17.40	230.00	18.50	261.00	18.20	235.00	19.00	226.00	18.20	250.00	18.10	227.00	18.30
250.00	17.20	257.00	17.10	261.00	17.70	297.00	10.40	245.00	19.40	243.00	19.30	292.00	9.70	246.00	17.60
260.00	17.10	260.00	15.50	279.00	12.70	300.00	10.50	262.00	17.90	266.00	17.80	300.00	9.10	262.00	18.10
300.00	9.70	284.00	10.70	300.00	10.10	320.00	9.60	283.00	11.50	282.00	12.50	350.00	5.80	300.00	9.90
372.00	8.90	309.00	4.80	326.00	10.00	350.00	8.10	300.00	11.10	300.00	10.00	400.00	3.80	327.00	7.50
381.00	7.00	330.00	10.00	350.00	7.70	400.00	4.20	326.00	8.10	350.00	6.00	450.00	2.30	350.00	6.40
400.00	4.50	350.00	7.70	400.00	3.40	450.00	1.70	350.00	6.60	400.00	3.80	500.00	.40	400.00	3.50
450.00	.80	400.00	2.40	450.00	1.40	500.00	-.30	400.00	3.50	450.00	1.80	550.00	-1.20	450.00	1.10
500.00	-.60	450.00	-.20	500.00	-.20	538.00	-1.80	450.00	1.50	500.00	.30			500.00	-.60
550.00	-1.10	500.00	-.20	550.00	-2.10			500.00	.50	550.00	-1.20			550.00	-1.40
600.00	-1.80	550.00	-1.40					550.00	-.50					566.00	-.40
		600.00	-2.60					600.00	-1.50					600.00	-.40
								650.00	-2.50					650.00	-1.50

PROFILE 18

DATE	720824	DATE	721017	DATE	721205	DATE	730103	DATE	730214	DATE	730314	DATE	730325	DATE	730403
SRVY	93	SRVY	94	SRVY	95	SRVY	96	SRVY	97	SRVY	98	SRVY	99	SRVY	100
TIME	1000	TIME	1200	TIME	1200	TIME	1300	TIME	1000	TIME	1200	TIME	1000	TIME	1300
200.00	15.70	150.00	14.20	150.00	14.20	200.00	15.70	150.00	14.20	200.00	15.70	200.00	15.70	196.00	15.00
230.00	17.70	200.00	15.60	200.00	15.50	240.00	19.90	193.00	15.30	235.00	18.80	232.00	18.90	200.00	16.10
250.00	17.70	231.00	18.40	231.00	18.90	265.00	18.00	200.00	16.10	250.00	18.40	246.00	18.50	230.00	19.00
264.00	17.50	260.00	17.80	246.00	19.50	249.00	11.50	210.00	17.50	259.00	17.70	265.00	17.60	261.00	17.70
269.00	15.50	300.00	10.50	266.00	17.80	300.00	9.70	227.00	18.80	280.00	11.50	281.00	12.60	286.00	11.70
300.00	9.90	350.00	6.50	295.00	10.70	333.00	7.30	247.00	19.50	300.00	9.50	300.00	10.20	300.00	10.50
350.00	8.20	400.00	3.10	300.00	9.30	350.00	5.80	260.00	17.70	328.00	7.90	350.00	6.90	321.00	9.10
377.00	8.70	450.00	1.10	350.00	4.40	396.00	.60	286.00	10.80	350.00	3.80	400.00	3.80	350.00	6.30
400.00	5.60	500.00	.10	400.00	2.40	450.00	.50	300.00	9.60	370.00	1.90	450.00	1.70	400.00	2.90
450.00	1.60	525.00	-1.20	450.00	1.40	500.00	.10	350.00	4.40	400.00	2.80	500.00	-.70	450.00	1.50
500.00	-.40			500.00	-.80	550.00	-.40	383.00	1.30	450.00	2.20			500.00	-1.70
550.00	-1.40					600.00	-2.50	400.00	.80	500.00	.70				
								434.00	.20	550.00	-1.20				
								450.00	.80						
								500.00	1.30						
								550.00	1.80						
								600.00	1.00						
								650.00	-1.00						

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 18

DATE	730418
SRVY	101
TIME	1000
190.00	15.10
222.00	18.10
235.00	18.80
263.00	17.90
280.00	12.10
300.00	9.70
350.00	5.60
385.00	6.10
400.00	4.10
450.00	.90
500.00	-1.00
525.00	-1.60

DATE	730612
SRVY	103
TIME	1300
190.00	15.10
200.00	15.90
220.00	18.20
262.00	16.20
283.00	11.70
300.00	9.90
325.00	6.10
362.00	8.50
375.00	7.80
400.00	6.50
425.00	3.90
450.00	.90
475.00	-.30
500.00	-1.10
519.00	-1.60

PROFILE 19

DATE	621002
SRVY	3
TIME	1200
71.00	7.30
94.00	10.00
115.00	10.50
121.00	9.30
135.00	8.40
198.00	7.20
229.00	7.80
275.00	4.60
319.00	1.90
344.00	-1.70

DATE	621011
SRVY	4
TIME	1200
122.00	9.40
149.00	7.80
191.00	7.40
235.00	8.00
268.00	4.20
301.00	1.30
321.00	-.30
334.00	-1.20

DATE	621023
SRVY	5
TIME	1200
116.00	10.60
121.00	9.40
159.00	8.20
189.00	7.00
216.00	8.00
292.00	8.70
265.00	4.80
286.00	2.60
303.00	.10

DATE	621029
SRVY	6
TIME	1200
118.00	10.40
125.00	9.30
139.00	8.20
192.00	7.40
236.00	8.40
263.00	5.80
297.00	2.00
332.00	-1.50

DATE	621108
SRVY	7
TIME	1200
112.00	10.80
119.00	11.80
131.00	8.70
149.00	8.00
193.00	8.20
229.00	6.10
270.00	4.90
311.00	2.00
367.00	-1.50

DATE	621210
SRVY	8
TIME	1200
107.00	11.00
122.00	12.20
135.00	9.10
185.00	7.70
216.00	5.50
260.00	5.90
286.00	4.40
329.00	.40
376.00	-1.80
409.00	-5.00

DATE	630115
SRVY	9
TIME	1200
0.00	6.50
30.00	6.80
46.00	6.80
50.00	6.30
75.00	7.40
94.00	4.90
99.00	10.80
105.00	11.00
121.00	12.60
131.00	12.20
141.00	8.90
157.00	7.90
176.00	7.50
200.00	7.90
213.00	7.80
226.00	6.50
250.00	5.70
277.00	4.80
301.00	2.90
326.00	.30
351.00	-1.10

DATE	630121
SRVY	10
TIME	1200
243.00	5.80
276.00	4.80
300.00	3.10
333.00	0.00
351.00	-1.80

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 19

DATE	630128	DATE	630204	DATE	630212	DATE	630220	DATE	630226	DATE	630304	DATE	630311	DATE	630319
SRVY	11	SRVY	12	SRVY	13	SRVY	14	SRVY	15	SRVY	16	SRVY	17	SRVY	18
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
150.00	8.30	131.00	12.30	151.00	8.40	179.00	7.40	230.00	6.70	156.00	8.40	168.00	7.40	252.00	5.90
162.00	7.70	148.00	8.40	157.00	7.70	200.00	7.10	251.00	6.10	164.00	7.50	175.00	7.20	275.00	5.80
174.00	7.50	176.00	7.70	163.00	7.90	236.00	6.60	277.00	5.50	200.00	7.00	201.00	6.70	301.00	5.00
201.00	7.50	201.00	7.40	167.00	7.40	254.00	6.20	291.00	5.40	252.00	6.30	227.00	6.60	352.00	.90
252.00	5.90	227.00	6.90	201.00	7.30	277.00	5.20	325.00	1.50	277.00	5.50	251.00	5.90	376.00	-.50
275.00	4.80	251.00	5.90	227.00	6.80	301.00	2.50	351.00	.20	302.00	2.40	260.00	5.50	400.00	-.90
312.00	3.80	275.00	4.80	251.00	6.80	325.00	.70	376.00	-1.70	326.00	1.10	351.00	.60		
353.00	.50	300.00	5.10	271.00	6.70	351.00	-.50			351.00	0.00	391.00	-1.00		
376.00	-2.20	305.00	4.90	302.00	3.10	377.00	-3.00			377.00	-.20				
		327.00	1.90	325.00	0.00					401.00	-1.10				
		352.00	.20	350.00	-1.40										
		376.00	-1.20												

PROFILE 19

DATE	630326	DATE	630404	DATE	630528	DATE	630613	DATE	630625	DATE	630711	DATE	630723	DATE	630806
SRVY	19	SRVY	20	SRVY	21	SRVY	22	SRVY	23	SRVY	24	SRVY	25	SRVY	26
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
168.00	7.40	167.00	7.40	75.00	7.30	124.00	15.50	276.00	6.90	225.00	6.50	170.00	8.10	301.00	7.90
201.00	6.70	175.00	6.90	97.00	10.10	170.00	7.40	300.00	7.30	251.00	6.70	201.00	7.10	314.00	7.60
230.00	6.80	202.00	6.50	124.00	15.60	201.00	6.70	326.00	5.90	301.00	7.40	224.00	6.50	320.00	6.30
277.00	6.50	226.00	6.60	148.00	8.40	247.00	6.40	352.00	3.90	351.00	0.00	252.00	6.50	350.00	5.50
287.00	6.30	252.00	6.30	200.00	7.00	275.00	7.10	375.00	.80	378.00	-1.20	300.00	7.90	401.00	1.30
329.00	2.40	276.00	6.60	230.00	6.40	301.00	7.00	402.00	-1.10			327.00	6.50	426.00	0.00
351.00	1.20	303.00	4.80	245.00	6.00	325.00	6.00					351.00	5.50	451.00	-.90
402.00	-1.00	325.00	2.70	276.00	7.00	352.00	2.10					375.00	1.30		
		351.00	1.50	323.00	6.40	375.00	-.50					401.00	.50		
		376.00	0.00	351.00	1.90	400.00	-2.20					427.00	-.60		
		402.00	-1.20	374.00	-.50										
				402.00	-1.40										

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 19

DATE	630820	DATE	630906	DATE	630926	DATE	631010	DATE	631025	DATE	631115	DATE	631227	DATE	640115
SRVY	27	SRVY	28	SRVY	29	SRVY	30	SRVY	31	SRVY	32	SRVY	33	SRVY	34
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
172.00	8.00	170.00	8.10	171.00	8.00	202.00	6.90	227.00	6.90	201.00	7.00	51.00	6.40	-304.00	3.00
226.00	6.60	201.00	7.50	202.00	6.90	224.00	7.00	251.00	7.10	227.00	7.00	82.00	8.50	-253.00	3.20
251.00	6.50	226.00	7.30	228.00	7.10	253.00	6.80	277.00	7.60	252.00	7.40	101.00	12.70	-227.00	3.30
302.00	7.90	251.00	5.00	277.00	6.90	278.00	7.50	304.00	4.50	277.00	8.10	137.00	15.80	-202.00	2.90
326.00	6.30	275.00	3.50	303.00	5.50	329.00	1.50	329.00	.90	302.00	3.40	147.00	15.00	-151.00	2.40
352.00	3.20	301.00	2.50	354.00	.40	354.00	-.20	353.00	0.00	327.00	.50	157.00	9.90	-127.00	4.00
375.00	1.30			374.00	-.40	358.00	-.40			355.00	-.20	171.00	7.70	-101.00	4.30
451.00	-1.80									379.00	-1.30	202.00	7.00	-77.00	3.40
												253.00	7.10	-27.00	4.40
												278.00	7.00	-1.00	6.50
												304.00	5.00	49.00	6.60
												329.00	4.10	60.00	6.00
												353.00	2.30	98.00	12.10
												404.00	-1.10	134.00	15.00
												429.00	-3.10	148.00	14.60
												454.00	-3.80	169.00	9.20
														252.00	4.70
														302.00	4.20
														346.00	2.50
														378.00	.50
														404.00	.10
														454.00	-2.60

PROFILE 19

DATE	640212	DATE	640310	DATE	640407	DATE	640525	DATE	640623	DATE	640829	DATE	640924	DATE	641211
SRVY	35	SRVY	36	SRVY	37	SRVY	38	SRVY	39	SRVY	40	SRVY	41	SRVY	42
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
150.00	13.40	100.00	12.20	76.00	7.20	75.00	7.10	94.00	11.80	140.00	14.00	95.00	13.40	93.00	10.80
166.00	8.90	125.00	14.50	100.00	13.00	100.00	14.00	136.00	15.20	163.00	8.70	124.00	15.70	129.00	12.70
176.00	7.90	151.00	13.70	131.00	16.10	125.00	14.70	143.00	14.40	202.00	7.10	148.00	13.50	150.00	12.40
226.00	5.60	165.00	8.50	151.00	13.80	134.00	15.40	176.00	8.00	251.00	8.20	169.00	9.00	170.00	8.00
252.00	4.30	203.00	6.90	176.00	8.70	151.00	13.40	201.00	7.10	278.00	7.90	201.00	7.20	206.00	6.40
277.00	6.60	253.00	7.00	202.00	7.10	169.00	9.00	276.00	8.70	302.00	7.60	227.00	7.90	251.00	7.60
328.00	2.80	279.00	6.80	251.00	6.50	201.00	7.40	302.00	6.30	311.00	7.90	251.00	9.20	277.00	7.90
353.00	2.10	303.00	6.20	303.00	7.30	227.00	7.00	335.00	4.60	330.00	5.00	278.00	9.90	302.00	7.80
378.00	1.20	353.00	1.90	353.00	4.20	277.00	7.10	353.00	3.40	352.00	2.90	296.00	10.00	327.00	6.40
416.00	-1.00	379.00	0.00	428.00	-1.00	302.00	7.00	377.00	-.30	378.00	.40	350.00	3.00	403.00	0.00
		403.00	-2.00	448.00	-3.20	352.00	3.90	403.00	-2.50			377.00	-.40	428.00	-1.40
						377.00	1.30					397.00	-1.20		
						403.00	-2.20								

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 19

DATE	650119	DATE	650427	DATE	650907	DATE	651027	DATE	651222	DATE	660125	DATE	660321	DATE	660922
SRVY	43	SRVY	44	SRVY	45	SRVY	46	SRVY	47	SRVY	48	SRVY	49	SRVY	50
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
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187.00	8.70	93.00	10.90	92.00	10.80	93.00	10.90	168.00	12.70	68.00	6.90	138.00	15.70	149.00	14.10
201.00	8.00	133.00	15.50	150.00	13.70	126.00	15.90	189.00	8.80	99.00	11.80	168.00	12.80	168.00	13.30
251.00	7.10	171.00	12.80	169.00	12.70	168.00	12.60	201.00	7.60	141.00	15.10	200.00	9.00	193.00	9.40
277.00	6.00	193.00	7.90	190.00	8.20	187.00	8.60	251.00	6.60	191.00	12.30	251.00	6.50	225.00	7.20
302.00	5.80	225.00	6.80	202.00	7.80	201.00	7.90	302.00	7.60	211.00	9.20	301.00	7.80	251.00	7.40
327.00	4.80	252.00	6.50	251.00	7.00	251.00	6.90	327.00	7.50	251.00	7.00	326.00	7.30	277.00	8.20
353.00	3.30	314.00	7.50	301.00	7.10	302.00	7.30	352.00	6.70	292.00	5.80	351.00	6.20	301.00	6.60
379.00	2.50	328.00	5.80	344.00	7.90	352.00	8.60	372.00	5.20	352.00	7.30	402.00	1.90	326.00	7.00
403.00	1.40	353.00	3.70	377.00	3.30	379.00	6.50	403.00	2.10	402.00	3.80	427.00	0.00	375.00	4.00
428.00	-.50	403.00	.30	403.00	1.30	403.00	4.10	455.00	-1.80	452.00	1.40	452.00	-1.80	402.00	2.60
		428.00	-1.50	429.00	.20	453.00	-.90	479.00	-2.90	472.00	0.00	472.00	-2.60	431.00	-.10
				468.00	-2.10	478.00	-1.50							452.00	-1.60

PROFILE 19

DATE	670116	DATE	670510	DATE	670920	DATE	671218	DATE	680117	DATE	680227	DATE	680327	DATE	681009
SRVY	51	SRVY	53	SRVY	54	SRVY	55	SRVY	56	SRVY	57	SRVY	58	SRVY	59
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
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130.00	15.50	130.00	15.30	128.00	14.90	130.00	15.40	93.00	13.50	92.00	13.50	87.00	15.00	90.00	12.50
150.00	14.00	150.00	14.10	150.00	13.20	149.00	13.40	111.00	13.80	129.00	14.50	120.00	14.20	130.00	14.80
171.00	13.60	160.00	12.90	176.00	12.90	180.00	12.70	130.00	15.30	152.00	13.60	161.00	12.50	160.00	14.30
191.00	11.40	206.00	9.00	225.00	8.00	200.00	9.40	150.00	13.50	170.00	12.40	200.00	9.10	190.00	11.00
210.00	8.60	225.00	7.70	251.00	7.70	250.00	7.60	169.00	12.80	198.00	9.40	300.00	4.90	200.00	9.00
226.00	7.20	276.00	7.80	277.00	7.60	301.00	4.90	192.00	10.40	251.00	7.20	350.00	5.00	250.00	7.30
251.00	7.00	301.00	7.40	352.00	5.80	351.00	4.90	215.00	9.00	289.00	6.20	400.00	-.70	300.00	8.00
277.00	7.30	321.00	7.40	379.00	3.00	402.00	3.00	251.00	7.60	350.00	2.20	425.00	-2.10	320.00	7.30
301.00	7.20	352.00	6.80	401.00	-.20	453.00	-.80	300.00	5.80	399.00	.60			325.00	6.10
326.00	7.60	377.00	4.50	427.00	-2.50	477.00	-2.50	350.00	5.00	449.00	-3.50			350.00	3.40
352.00	6.90	402.00	1.90					381.00	1.10					375.00	1.00
381.00	7.40	427.00	-.50					424.00	-3.00					400.00	0.00
402.00	5.00	452.00	-2.00					450.00	-3.40					425.00	-1.70
427.00	1.90													450.00	-2.20
478.00	-1.90														

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 19

DATE	681023	DATE	681113	DATE	681218	DATE	690115	DATE	690213	DATE	690304	DATE	690528	DATE	690924
SRVY	60	SRVY	61	SRVY	62	SRVY	63	SRVY	64	SRVY	65	SRVY	66	SRVY	67
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
90.00	12.50	100.00	12.30	150.00	13.70	100.00	13.20	100.00	13.30	130.00	14.10	91.00	12.10	92.00	12.20
130.00	14.80	130.00	14.30	160.00	14.20	135.00	14.60	132.00	14.10	163.00	14.50	128.00	14.40	130.00	13.90
160.00	14.70	165.00	15.60	175.00	14.70	170.00	14.90	173.00	14.50	192.00	11.20	158.00	14.90	161.00	15.90
190.00	10.70	190.00	10.70	190.00	10.80	200.00	9.80	200.00	10.40	200.00	10.30	167.00	14.20	176.00	12.60
200.00	9.70	250.00	6.70	200.00	9.90	225.00	7.90	219.00	8.60	225.00	8.80	190.00	11.10	208.00	9.50
245.00	7.50	300.00	5.00	250.00	6.70	250.00	6.80	250.00	8.10	250.00	6.60	200.00	10.00	234.00	7.90
300.00	8.70	350.00	4.20	300.00	5.70	300.00	6.70	275.00	7.60	300.00	3.90	250.00	7.20	250.00	7.60
330.00	7.90	400.00	3.30	350.00	6.30	335.00	6.50	300.00	6.20	350.00	2.90	300.00	7.40	275.00	8.30
350.00	5.90	425.00	1.50	375.00	4.60	350.00	5.60	325.00	4.80	400.00	.40	319.00	7.50	296.00	8.50
375.00	3.30	450.00	-.10	400.00	3.00	375.00	4.50	350.00	2.70	440.00	-1.30	325.00	7.10	329.00	2.70
400.00	.70	475.00	-1.80	425.00	1.50	400.00	2.60	375.00	1.20			350.00	4.60	350.00	2.10
425.00	-.70			450.00	0.00	425.00	.20	400.00	0.00			375.00	1.80	375.00	1.30
450.00	-2.30			475.00	-1.30	450.00	-1.10	425.00	-1.10			400.00	-.20	400.00	-.10
						474.00	-1.90	450.00	-2.50			450.00	-2.30	425.00	-1.30
												500.00	-5.00	450.00	-3.00

PROFILE 19

DATE	691020	DATE	691118	DATE	691218	DATE	700120	DATE	700216	DATE	700319	DATE	700521	DATE	700828
SRVY	68	SRVY	69	SRVY	70	SRVY	71	SRVY	72	SRVY	73	SRVY	74	SRVY	75
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
90.00	12.20	58.00	7.00	58.00	7.10	59.00	7.20	100.00	12.70	60.00	7.40	60.00	7.30	56.00	7.20
130.00	14.20	90.00	11.80	90.00	11.70	92.00	11.80	150.00	13.40	92.00	11.50	91.00	11.90	100.00	13.70
142.00	13.90	100.00	13.20	100.00	13.30	100.00	13.10	175.00	15.10	96.00	12.70	100.00	13.30	150.00	14.50
156.00	15.60	141.00	13.70	130.00	14.00	129.00	13.80	200.00	11.10	125.00	12.10	139.00	14.20	167.00	15.60
164.00	15.60	162.00	15.30	165.00	14.90	146.00	13.60	225.00	9.30	150.00	13.60	165.00	15.10	185.00	12.20
170.00	13.90	190.00	11.00	170.00	15.20	162.00	14.60	250.00	7.80	173.00	15.30	185.00	12.50	200.00	11.30
190.00	11.00	241.00	8.30	200.00	10.40	170.00	15.00	300.00	7.20	200.00	10.70	208.00	11.80	207.00	11.10
225.00	8.30	265.00	6.70	220.00	9.00	195.00	11.00	338.00	6.70	209.00	11.20	226.00	8.80	296.00	7.40
238.00	7.80	291.00	6.30	250.00	8.00	205.00	11.00	375.00	4.20	228.00	8.60	265.00	7.00	300.00	7.00
250.00	7.70	300.00	5.90	300.00	6.00	233.00	8.50	425.00	1.00	250.00	7.20	300.00	7.00	350.00	7.00
275.00	8.30	350.00	4.10	329.00	4.60	250.00	7.50	475.00	-.80	300.00	7.80	355.00	6.00	400.00	4.10
297.00	3.50	375.00	3.30	350.00	3.20	300.00	5.40	500.00	-1.80	314.00	7.60	400.00	3.40	450.00	.20
300.00	3.10	400.00	1.70	400.00	.80	350.00	5.30			339.00	5.70	450.00	-.60	500.00	-2.60
325.00	-.50	425.00	.30	450.00	-1.20	363.00	5.40			350.00	3.70	482.00	-3.50	546.00	-3.40
350.00	3.70	450.00	-.90	500.00	-3.50	400.00	2.80			400.00	-.20			543.00	-2.20
400.00	1.50	475.00	-2.20			450.00	.60			450.00	-2.40			550.00	-2.10
450.00	-1.50					500.00	-1.90			470.00	-3.50			600.00	-3.10
456.00	-1.70					508.00	-2.40								
467.00	-3.70														
475.00	-3.80														
495.00	5.90														

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 19

DATE	01012	DATE	701207	DATE	701218	DATE	710112	DATE	710208	DATE	710308	DATE	710408	DATE	710629
SRVY	76	SRVY	77	SRVY	78	SRVY	79	SRVY	80	SRVY	81	SRVY	82	SRVY	83
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
57.00	7.10	59.00	7.40	58.00	7.20	57.00	7.10	100.00	12.90	56.00	7.10	100.00	13.00	100.00	12.40
100.00	13.80	100.00	13.20	100.00	13.00	77.00	9.00	163.00	15.50	66.00	9.20	140.00	13.10	150.00	13.60
150.00	14.60	157.00	14.20	129.00	14.10	92.00	11.70	200.00	12.70	76.00	9.30	160.00	15.10	160.00	15.50
167.00	15.60	200.00	11.30	162.00	15.70	100.00	12.80	218.00	9.80	91.00	11.30	180.00	13.70	185.00	12.50
200.00	11.20	241.00	7.60	200.00	12.00	111.00	14.10	250.00	7.70	100.00	12.90	220.00	13.00	206.00	12.00
231.00	8.10	300.00	7.50	224.00	8.90	138.00	14.10	300.00	6.50	147.00	13.40	245.00	9.70	214.00	13.10
250.00	7.20	350.00	6.50	250.00	7.80	165.00	15.70	350.00	5.00	163.00	15.50	250.00	8.70	250.00	8.30
300.00	7.00	400.00	2.80	290.00	7.70	200.00	12.40	400.00	2.60	200.00	11.50	300.00	6.70	300.00	7.20
350.00	8.10	450.00	-1.50	300.00	7.30	223.00	9.70	450.00	.30	218.00	10.60	350.00	4.80	345.00	7.10
372.00	8.00			350.00	4.60	250.00	8.20	470.00	-1.10	238.00	7.60	400.00	2.30	400.00	.70
400.00	3.90			384.00	5.20	300.00	6.10			250.00	7.00	450.00	-1.20	450.00	-2.70
450.00	1.30			400.00	2.70	323.00	5.40			300.00	5.70			500.00	-6.50
500.00	-.80			432.00	.20	350.00	6.10			350.00	4.00				
550.00	-1.30					370.00	6.30			400.00	4.00				
600.00	-1.80					400.00	3.00			450.00	2.40				
650.00	-2.70					450.00	-.50			475.00	.90				
						475.00	-2.10			500.00	-1.10				
										515.00	-1.60				

PROFILE 19

DATE	710817	DATE	711007	DATE	711218	DATE	720112	DATE	720215	DATE	720223	DATE	720313	DATE	720411
SRVY	85	SRVY	86	SRVY	87	SRVY	88	SRVY	89	SRVY	90	SRVY	91	SRVY	92
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
100.00	12.60	58.00	7.10	62.00	8.30	61.00	8.20	60.00	7.40	62.00	8.20	66.00	9.10	57.00	7.50
150.00	13.60	100.00	13.50	110.00	13.50	100.00	12.90	95.00	12.50	100.00	12.40	79.00	9.50	100.00	13.40
164.00	15.50	134.00	13.30	150.00	13.90	165.00	15.30	100.00	13.00	131.00	14.00	100.00	12.50	128.00	16.40
200.00	12.30	150.00	14.00	167.00	15.50	200.00	12.40	120.00	13.80	140.00	13.00	149.00	13.10	140.00	15.30
216.00	13.10	158.00	15.50	189.00	12.70	224.00	12.30	147.00	13.40	165.00	15.00	165.00	15.40	159.00	15.10
257.00	8.00	190.00	12.10	200.00	12.30	254.00	8.30	165.00	15.60	200.00	12.40	200.00	12.70	180.00	13.70
300.00	7.00	200.00	12.60	220.00	12.70	300.00	7.80	189.00	12.30	232.00	11.70	226.00	12.20	214.00	13.10
331.00	8.30	207.00	13.30	250.00	8.20	349.00	7.60	200.00	12.30	268.00	8.00	265.00	8.00	250.00	8.80
337.00	6.60	250.00	8.20	300.00	8.00	357.00	6.10	218.00	11.80	300.00	6.40	300.00	6.70	300.00	7.40
350.00	5.20	300.00	8.70	350.00	5.60	375.00	2.90	242.00	9.30	343.00	6.00	334.00	6.80	343.00	5.30
375.00	2.20	310.00	9.30	400.00	2.10	400.00	.40	250.00	8.80	389.00	3.60	350.00	6.30	350.00	4.80
400.00	-.60	350.00	5.70	450.00	-2.00	420.00	.90	300.00	7.80	400.00	4.00	400.00	3.80	400.00	1.70
450.00	-4.30	400.00	1.70			435.00	-.10	332.00	7.10	414.00	4.20	450.00	1.80	450.00	-1.20
		450.00	-1.30			450.00	-1.60	350.00	6.10	450.00	-.30	500.00	-1.20	475.00	-2.80
		500.00	-3.30			500.00	-.60	400.00	2.70	463.00	-1.30				
						525.00	-2.10	450.00	-.30						
								475.00	-2.30						

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 19

DATE	720824	DATE	721017	DATE	721205	DATE	730103	DATE	730214	DATE	730310	DATE	730325	DATE	730403
SRVY	93	SRVY	94	SRVY	95	SRVY	96	SRVY	97	SRVY	98	SRVY	99	SRVY	100
TIME	1000	TIME	1200	TIME	1300	TIME	1300	TIME	1000	TIME	1200	TIME	1000	TIME	1300
59.00	7.20	60.00	7.00	60.00	7.30	60.00	7.20	60.00	7.30	59.00	7.10	60.00	7.10	60.00	7.00
100.00	12.70	100.00	12.50	100.00	12.40	100.00	12.40	100.00	12.80	100.00	12.60	94.00	11.90	100.00	12.70
128.00	14.00	129.00	13.90	133.00	13.60	132.00	13.70	145.00	13.10	129.00	14.40	100.00	12.70	128.00	13.80
138.00	13.30	163.00	15.10	164.00	15.10	150.00	13.30	165.00	14.80	149.00	13.50	117.00	14.10	146.00	13.00
142.00	15.20	200.00	13.20	200.00	16.00	165.00	15.10	191.00	13.30	162.00	15.10	140.00	12.60	161.00	15.00
200.00	13.10	217.00	12.80	217.00	13.00	192.00	15.50	200.00	14.60	189.00	14.10	162.00	14.60	181.00	14.60
218.00	12.40	240.00	9.80	250.00	9.30	218.00	13.00	234.00	10.40	200.00	14.90	182.00	13.80	200.00	14.00
250.00	8.70	250.00	9.20	300.00	8.00	240.00	10.00	250.00	8.80	234.00	10.40	195.00	13.30	249.00	6.70
300.00	8.00	300.00	9.00	350.00	4.10	250.00	9.50	300.00	5.40	250.00	8.90	200.00	14.60	300.00	6.10
333.00	8.40	350.0	4.90	400.00	1.50	300.00	6.50	350.00	4.40	290.00	6.90	250.00	9.00	350.00	2.20
356.00	7.00	375.00	3.20	450.00	-.90	350.00	5.20	400.00	0.00	300.00	6.00	300.00	5.30	400.00	-.50
400.00	3.10	400.00	2.20	475.00	-2.50	400.00	1.50	450.00	-1.80	314.00	4.20	350.00	1.90	426.00	-2.00
450.00	-1.30	425.00	.70			450.00	-1.60			337.00	4.40	400.00	-1.20		
475.00	-2.70	450.00	-1.80			475.00	-3.40			350.00	2.70	425.00	-3.00		
										400.00	-.30				
										450.00	-2.50				

PROFILE 19

DATE	730418	DATE	730612
SRVY	101	SRVY	103
TIME	1100	TIME	1300
60.00	7.30	60.00	7.80
100.00	12.70	100.00	12.90
128.00	14.10	126.00	14.00
149.00	12.90	143.00	12.70
165.00	15.00	158.00	14.70
184.00	14.40	175.00	14.50
200.00	14.70	187.00	13.70
219.00	13.00	200.00	14.60
255.00	8.40	210.00	13.20
300.00	4.90	250.00	8.70
334.00	5.10	258.00	7.70
350.00	4.20	276.00	7.40
400.00	3.70	300.00	5.70
450.00	-1.90	332.00	7.00
		350.00	5.70
		375.00	3.40
		400.00	1.40
		425.00	-1.60

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 20

DATE	621002	DATE	621011	DATE	621023	DATE	621029	DATE	621108	DATE	621210	DATE	630115	DATE	630121
SRVY	3	SRVY	4	SRVY	5	SRVY	6	SRVY	7	SRVY	8	SRVY	9	SRVY	10
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
55.00	9.00	158.00	13.30	158.00	13.40	158.00	13.30	144.00	12.60	101.00	10.60	0.00	6.40	165.00	10.00
127.00	11.90	181.00	12.70	177.00	13.00	176.00	13.00	153.00	14.20	155.00	12.00	50.00	8.40	201.00	9.20
157.00	13.60	197.00	10.90	197.00	10.80	198.00	10.50	158.00	13.30	169.00	11.20	129.00	12.20	229.00	8.70
175.00	13.10	206.00	8.90	205.00	8.90	208.00	8.30	180.00	12.70	180.00	10.50	149.00	13.80	252.00	7.90
209.00	8.30	228.00	7.70	222.00	8.20	241.00	7.70	182.00	8.10	183.00	8.30	150.00	13.80	274.00	7.50
241.00	5.70	245.00	5.50	238.00	8.30	256.00	6.30	210.00	5.10	215.00	6.60	153.00	13.90	321.00	2.60
281.00	2.00	280.00	2.80	261.00	5.00	274.00	3.50	251.00	5.10	251.00	4.40	156.00	13.30	351.00	-.70
325.00	-1.60	320.00	.70	286.00	2.30	321.00	.40	284.00	3.10	280.00	4.30	158.00	13.60	376.00	-1.70
		346.00	-1.10	321.00	.20	361.00	-1.00	349.00	-1.60	319.00	1.90	175.00	12.90		
										371.00	-.70	187.00	9.60		
										425.00	-4.80	200.00	8.90		
												226.00	8.80		
												300.00	6.40		
												327.00	2.60		
												352.00	0.00		
												376.00	-1.70		

PROFILE 20

DATE	630128	DATE	630204	DATE	630212	DATE	630220	DATE	630226	DATE	630304	DATE	630311	DATE	630319
SRVY	11	SRVY	12	SRVY	13	SRVY	14	SRVY	15	SRVY	16	SRVY	17	SRVY	18
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
188.00	9.00	175.00	12.40	186.00	9.90	201.00	9.00	203.00	8.90	251.00	7.90	200.00	8.90	250.00	7.70
201.00	9.00	186.00	9.80	201.00	9.20	254.00	7.70	254.00	7.60	279.00	7.80	251.00	7.70	278.00	5.60
228.00	8.60	200.00	8.90	226.00	8.80	301.00	2.60	288.00	4.80	300.00	4.40	275.00	5.10	303.00	5.00
254.00	8.10	226.00	8.80	253.00	8.00	352.00	-.20	328.00	.60	326.00	1.90	300.00	2.20	327.00	.80
275.00	7.90	252.00	8.10	268.00	7.20	375.00	-1.90	350.00	-.70	351.00	.20	352.00	-.10	353.00	-.70
302.00	3.50	276.00	8.10	325.00	.40			374.00	-1.70	376.00	-.80	377.00	-1.00	377.00	-1.10
325.00	1.80	300.00	5.80	376.00	-1.60					401.00	-1.40				
351.00	-.70	325.00	3.80												
376.00	-3.00	351.00	1.60												
		376.00	.20												
		401.00	-2.00												

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 20

DATE	630326	DATE	630404	DATE	630528	DATE	630613	DATE	630625	DATE	630711	DATE	630725	DATE	630808
SRVY	19	SRVY	20	SRVY	21	SRVY	22	SRVY	23	SRVY	24	SRVY	25	SRVY	26
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
201.00	9.00	261.00	7.00	0.00	6.50	172.00	11.00	179.00	9.00	220.00	6.60	202.00	6.90	202.00	6.90
252.00	7.90	300.00	3.20	50.00	6.60	178.00	9.10	201.00	7.40	251.00	6.40	226.00	6.50	227.00	6.50
301.00	3.20	351.00	-.50	100.00	8.70	200.00	7.10	227.00	6.30	274.00	3.30	251.00	4.20	250.00	4.20
350.00	-.50	377.00	-.90	124.00	10.20	225.00	6.50	247.00	6.00	302.00	-.70	276.00	1.70	277.00	3.90
384.00	-1.20			147.00	12.60	250.00	5.60	277.00	3.40			302.00	0.00	302.00	2.00
				155.00	12.50	275.00	3.50	302.00	-.20			326.00	-1.10	351.00	-2.60
				172.00	11.00	300.00	-.20	327.00	-2.80						
				178.00	9.10	325.00	-1.10								
				201.00	7.30										
				228.00	6.30										
				251.00	5.90										
				276.00	4.30										
				300.00	1.00										
				327.00	-1.00										

PROFILE 20

DATE	630820	DATE	630906	DATE	630926	DATE	631010	DATE	631025	DATE	631115	DATE	631227	DATE	640115
SRVY	27	SRVY	28	SRVY	29	SRVY	30	SRVY	31	SRVY	32	SRVY	33	SRVY	34
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
173.00	10.90	173.00	10.90	202.00	5.30	204.00	5.30	173.00	10.60	174.00	10.60	99.00	8.60	-304.00	5.70
181.00	8.70	201.00	5.20	227.00	4.30	226.00	5.10	202.00	5.10	177.00	8.60	139.00	12.60	-253.00	5.50
202.00	7.00	225.00	2.90	252.00	5.00	251.00	5.80	228.00	5.50	201.00	6.40	156.00	14.70	-152.00	5.50
251.00	5.00	252.00	.90	279.00	4.50	303.00	1.80	254.00	5.20	227.00	5.90	168.00	11.90	-51.00	5.90
301.00	.30			304.00	2.00	328.00	-.10	278.00	2.90	252.00	6.40	178.00	10.80	-26.00	6.20
325.00	-1.10			329.00	.30	354.00	-1.50	304.00	1.40	278.00	5.70	191.00	7.70	-16.00	6.00
				353.00	-2.20			329.00	-.60	303.00	2.00	202.00	6.70	49.00	6.40
										353.00	-3.00	227.00	6.10	100.00	6.90
												250.00	6.30	127.00	12.40
												276.00	6.00	155.00	15.00
												303.00	5.30	174.00	10.50
												328.00	1.60	184.00	6.40
												378.00	-3.60	227.00	2.30
														252.00	2.90
														277.00	1.10
														302.00	1.40
														328.00	-.50
														353.00	-2.00
														379.00	-3.50

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 20

DATE	640212	DATE	640310	DATE	640407	DATE	640525	DATE	640623	DATE	640829	DATE	640924	DATE	641201
SRVY	35	SRVY	36	SRVY	37	SRVY	38	SRVY	39	SRVY	40	SRVY	41	SRVY	42
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
183.00	6.80	100.00	9.00	106.00	9.30	125.00	10.30	157.00	15.90	130.00	11.40	127.00	10.40	125.00	12.00
202.00	5.30	122.00	10.20	122.00	10.10	131.00	12.10	184.00	9.50	150.00	10.30	151.00	14.50	151.00	16.00
217.00	5.70	131.00	12.80	132.00	12.00	149.00	14.20	201.00	8.30	162.00	15.70	170.00	13.70	170.00	12.00
252.00	2.30	146.00	13.80	149.00	14.10	162.00	14.10	252.00	7.10	182.00	7.80	176.00	11.60	200.00	7.40
277.00	.40	151.00	14.60	162.00	14.00	182.00	8.10	256.00	5.60	203.00	7.30	201.00	8.40	226.00	6.10
302.00	-.30	172.00	10.60	180.00	8.10	202.00	6.40	278.00	3.70	243.00	3.60	226.00	6.80	252.00	4.80
328.00	-.70	182.00	7.20	201.00	6.10	226.00	6.20	303.00	-.50	261.00	0.00	253.00	3.70	302.00	.40
354.00	-2.10	200.00	6.00	226.00	5.70	252.00	4.50	328.00	-3.40			277.00	1.40	327.00	-.50
378.00	-3.90	252.00	4.70	277.00	2.80	276.00	5.50					302.00	.20	353.00	-2.50
		303.00	.30	302.00	0.00	297.00	5.90					325.00	-.60		
		330.00	-1.40	328.00	-1.40	302.00	3.50								
		353.00	-3.30	353.00	-3.90	327.00	-.10								
						353.00	-3.50								

PROFILE 20

DATE	650119	DATE	650427	DATE	650907	DATE	651027	DATE	651222	DATE	660125	DATE	660321	DATE	660922
SRVY	43	SRVY	44	SRVY	45	SRVY	46	SRVY	47	SRVY	48	SRVY	49	SRVY	50
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
179.00	9.00	124.00	12.00	125.00	12.00	112.00	10.00	188.00	9.80	125.00	11.60	150.00	15.60	175.00	14.20
201.00	6.40	163.00	15.20	150.00	16.60	150.00	15.70	201.00	8.30	144.00	15.50	195.00	10.10	196.00	10.10
227.00	4.00	188.00	8.50	162.00	14.70	163.00	14.30	240.00	8.30	165.00	14.20	250.00	7.00	251.00	5.80
252.00	2.30	201.00	7.80	186.00	9.60	189.00	9.80	251.00	6.40	186.00	9.20	286.00	7.00	277.00	4.40
302.00	.90	252.00	7.10	201.00	8.00	200.00	8.40	277.00	5.00	201.00	7.60	301.00	3.90	301.00	3.40
328.00	0.00	262.00	6.80	226.00	8.10	236.00	8.90	302.00	2.90	251.00	5.30	326.00	.80	327.00	3.00
352.00	-1.60	302.00	5.80	236.00	8.00	302.00	0.00	327.00	.90	302.00	1.60	351.00	-2.10	351.00	1.40
		378.00	-2.00	253.00	7.10	307.00	-.20	393.00	-2.80	327.00	.10	376.00	-2.10	376.00	.40
				277.00	5.00							401.00	-2.60	402.00	-1.00
				327.00	.60							427.00	-2.90	418.50	-1.50
				352.00	-1.90							477.00	-3.10		

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 20

DATE	670116	DATE	670510	DATE	670920	DATE	671218	DATE	680117	DATE	680227	DATE	680327	DATE	681009
SRVY	51	SRVY	53	SRVY	54	SRVY	55	SRVY	56	SRVY	57	SRVY	58	SRVY	59
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
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161.00	14.50	133.00	14.20	148.00	16.40	133.00	15.50	130.00	16.80	130.00	15.50	131.00	16.50	135.00	16.40
195.00	12.80	150.00	14.40	176.00	13.20	150.00	16.20	150.00	16.00	151.00	16.50	146.00	16.40	155.00	16.40
211.00	9.30	175.00	13.50	201.00	10.10	165.00	14.90	184.00	13.70	185.00	12.40	153.00	14.90	164.00	14.20
227.00	8.50	201.00	11.00	250.00	7.10	201.00	10.20	205.00	9.60	206.00	9.50	185.00	12.40	195.00	10.10
276.00	7.30	225.00	9.40	276.00	6.50	251.00	6.50	250.00	6.50	300.00	4.90	200.00	9.50	250.00	6.00
292.00	7.30	251.00	8.30	301.00	5.30	297.00	4.50	320.00	4.80	350.00	2.30	250.00	7.40	271.00	6.50
328.00	3.40	276.00	7.30	352.00	1.10	352.00	0.90	375.00	-1.30	400.00	-1.90	300.00	4.70	273.00	7.70
353.00	.70	302.00	5.10	402.00	-3.10	402.00	-3.20	399.00	-2.50			349.00	1.20	300.00	4.80
392.00	-1.80	326.00	2.70									400.00	-3.90	325.00	3.00
		351.00	.30											350.00	1.50
		377.00	-1.90											375.00	-.50
		402.00	-3.30											400.00	-3.00

PROFILE 20

DATE	681023	DATE	681113	DATE	681218	DATE	690115	DATE	690213	DATE	690304	DATE	690528	DATE	690924
SRVY	60	SRVY	61	SRVY	62	SRVY	63	SRVY	64	SRVY	65	SRVY	66	SRVY	67
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
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135.00	15.60	135.00	16.70	135.00	16.80	134.00	17.10	134.00	16.50	131.00	16.60	130.00	16.50	132.00	17.20
155.00	16.40	155.00	17.50	160.00	17.20	165.00	16.90	165.00	16.30	157.00	17.60	140.00	16.40	140.00	16.20
180.00	12.90	185.00	12.60	170.00	16.10	185.00	12.60	187.00	12.00	171.00	14.30	150.00	16.60	156.00	16.00
200.00	9.80	205.00	9.40	185.00	12.70	200.00	9.90	200.00	10.40	200.00	10.20	160.00	15.80	175.00	15.50
230.00	8.20	250.00	5.80	200.00	10.10	225.00	8.10	205.00	9.50	225.00	8.40	180.00	13.00	208.00	9.40
280.00	8.70	300.00	4.40	225.00	7.30	250.00	7.50	250.00	7.30	250.00	5.10	200.00	10.00	225.00	9.10
281.00	6.30	335.00	3.90	250.00	6.10	265.00	7.10	300.00	6.60	300.00	2.10	225.00	8.30	240.00	9.20
300.00	3.90	350.00	2.30	275.00	5.50	275.00	6.20	330.00	5.90	350.00	1.20	250.00	8.10	250.00	7.70
325.00	1.90	375.00	-.30	300.00	5.10	300.00	3.80	350.00	3.10	400.00	-.90	275.00	5.90	275.00	5.80
350.00	-.40	400.00	-1.50	325.00	1.30	325.00	1.40	400.00	-.50			300.00	2.50	300.00	4.50
375.00	-1.70			350.00	-1.10	350.00	-1.10	450.00	-3.00			325.00	-.90	325.00	2.50
				375.00	-2.50	370.00	-2.60					350.00	-3.00	350.00	1.50
												375.00	-3.90	375.00	.50
														400.00	-.60
														425.00	-1.90

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 20

DATE	691020	DATE	691118	DATE	691218	DATE	700120	DATE	700216	DATE	700319	DATE	700521	DATE	700828
SRVY	68	SRVY	69	SRVY	70	SRVY	71	SRVY	72	SRVY	73	SRVY	74	SRVY	75
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
110.00	9.40	110.00	9.50	114.00	10.50	110.00	9.70	106.00	9.10	50.00	6.80	50.00	4.80	100.00	8.70
130.00	17.00	130.00	17.20	133.00	17.50	132.00	17.40	132.00	16.60	110.00	9.10	100.00	8.60	136.00	16.00
136.00	17.30	142.00	16.40	143.00	16.40	146.00	16.70	162.00	17.50	133.00	16.20	124.00	17.60	159.00	17.50
141.00	16.80	158.00	17.90	158.00	17.60	160.00	17.40	175.00	14.60	139.00	17.50	159.00	18.10	176.00	14.40
152.00	18.30	200.00	10.90	178.00	13.50	165.00	16.80	206.00	11.30	160.00	17.60	170.00	15.60	209.00	12.30
156.00	18.60	232.00	7.60	200.00	10.80	200.00	11.50	250.00	7.00	186.00	13.30	200.00	12.50	222.00	6.30
207.00	9.60	275.00	5.70	230.00	7.90	218.00	9.10	275.00	5.00	205.00	11.80	220.00	8.60	259.00	7.20
216.00	9.00	300.00	5.00	250.00	7.40	250.00	6.70	300.00	4.20	222.00	9.10	245.00	6.60	268.00	7.50
225.00	9.00	325.00	3.40	288.00	5.70	301.00	5.60	325.00	3.20	250.00	7.60	300.00	6.70	300.00	4.20
246.00	8.90	350.00	1.60	300.00	4.70	350.00	2.20	350.00	1.20	277.00	5.60	350.00	3.10	350.00	-.20
275.00	6.20	375.00	-.20	350.00	1.10	400.00	-.40	375.00	-.80	300.00	3.20	400.00	-1.50	400.00	-2.40
300.00	2.70	400.00	-2.00	400.00	0.00	438.00	-2.70	400.00	-1.10	350.00	.30	420.00	-2.90	450.00	-4.30
325.00	.30			450.00	-1.40			415.00	-1.80	400.00	-1.50				
350.00	-.80			500.00	-3.10					450.00	-2.80				
375.00	-1.60									475.00	-3.60				
400.00	-2.90														
425.00	-4.00														

PROFILE 20

DATE	701012	DATE	701207	DATE	701218	DATE	710112	DATE	710208	DATE	710308	DATE	710408	DATE	710620
SRVY	76	SRVY	77	SRVY	78	SRVY	79	SRVY	80	SRVY	81	SRVY	82	SRVY	83
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
90.00	8.20	90.00	7.90	25.00	6.40	93.00	8.30	130.00	17.90	100.00	8.80	132.00	18.00	100.00	8.50
100.00	9.30	100.00	8.60	100.00	9.00	133.00	18.20	160.00	17.90	135.00	17.40	160.00	17.80	132.00	18.10
132.00	17.90	138.00	18.20	137.00	18.20	143.00	17.70	200.00	13.90	156.00	17.90	192.00	16.30	138.00	16.80
143.00	17.00	148.00	17.10	170.00	16.70	162.00	18.00	215.00	9.80	187.00	14.50	210.00	10.10	158.00	17.60
159.00	17.70	169.00	17.20	184.00	13.40	175.00	16.70	240.00	7.50	193.00	10.40	250.00	5.90	187.00	16.20
200.00	12.00	200.00	12.80	200.00	12.80	197.00	15.80	300.00	3.30	212.00	9.30	265.00	5.70	215.00	8.80
219.00	8.50	217.00	12.10	228.00	9.20	200.00	13.50	350.00	1.30	231.00	6.50	300.00	2.40	250.00	7.50
250.00	7.40	229.00	9.70	250.00	7.20	218.00	10.20	390.00	-.70	250.00	5.60	350.00	-1.10	300.00	2.20
275.00	7.50	250.00	8.40	300.00	4.30	257.00	6.50			275.00	3.00	365.00	-2.60	350.00	-3.20
300.00	4.10	295.00	7.90	350.00	1.80	300.00	6.40			300.00	0.00			400.00	-5.80
350.00	.50	300.00	7.10	382.00	0.00	325.00	3.70			325.00	-1.50				
400.00	-.90	300.00	6.10			350.00	1.70								
450.00	-2.10	350.00	3.60			375.00	-.30								
487.00	-3.30	380.00	.80			400.00	-2.40								

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 20

DATE	710817	DATE	711007	DATE	711214	DATE	720112	DATE	720215	DATE	720223	DATE	720313	DATE	720911
SRVY	85	SRVY	86	SRVY	87	SRVY	88	SRVY	89	SRVY	90	SRVY	91	SRVY	92
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
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100.00	8.90	100.00	8.80	24.00	6.60	25.00	6.40	100.00	8.90	100.00	8.80	25.00	6.60	25.00	6.50
132.00	17.80	137.00	18.60	100.00	9.10	100.00	8.60	135.00	18.50	140.00	18.50	100.00	8.50	100.00	9.10
158.00	17.50	145.00	17.10	140.00	18.00	135.00	18.20	155.00	17.20	155.00	17.00	143.00	18.60	133.00	17.90
190.00	16.00	164.00	17.30	170.00	16.80	143.00	16.80	175.00	19.60	167.00	17.30	155.00	16.40	156.00	17.40
197.00	14.80	180.00	14.80	180.00	19.20	162.00	17.60	189.00	15.30	182.00	15.20	185.00	15.50	167.00	16.70
221.00	8.70	190.00	15.90	195.00	15.00	177.00	15.80	192.00	15.30	196.00	16.20	200.00	16.60	175.00	15.00
240.00	9.10	200.00	14.20	200.00	14.40	200.00	15.70	225.00	7.10	200.00	15.70	221.00	9.80	183.00	16.60
291.00	4.20	227.00	8.40	225.00	8.60	225.00	9.20	250.00	5.80	220.00	9.70	250.00	7.00	200.00	13.30
325.00	-.30	250.00	6.60	250.00	8.00	250.00	8.00	275.00	3.10	250.00	6.50	300.00	4.30	225.00	8.00
350.00	-2.80	300.00	1.60	300.00	4.70	275.00	3.70	300.00	1.10	300.00	3.70	350.00	2.30	250.00	7.80
		350.00	-.40	350.00	.70	300.00	.70	350.00	-2.00	323.00	3.20	400.00	-1.20	267.00	7.80
		400.00	-2.40	375.00	-2.00	325.00	-.80			350.00	.70			269.00	6.40
						350.00	-2.30			395.00	-2.30			300.00	2.30
														350.00	-1.70
														400.00	-4.20

PROFILE 20

DATE	720424	DATE	721017	DATE	721205	DATE	730103	DATE	730210	DATE	730310	DATE	730325	DATE	730405
SRVY	93	SRVY	94	SRVY	95	SRVY	96	SRVY	97	SRVY	98	SRVY	99	SRVY	100
TIME	1000	TIME	1200	TIME	1300	TIME	1300	TIME	1000	TIME	1200	TIME	1000	TIME	1300
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25.00	6.30	25.00	6.40	20.00	6.20	0.00	6.20	20.00	6.30	20.00	6.20	25.00	6.10	20.00	6.20
100.00	8.70	80.00	7.00	100.00	8.80	25.00	6.50	100.00	9.00	100.00	8.40	100.00	8.60	100.00	6.40
134.00	18.00	100.00	9.00	135.00	18.70	100.00	8.40	133.00	18.40	136.00	18.40	131.00	18.10	132.00	18.60
165.00	16.80	136.00	18.40	148.00	16.60	137.00	18.30	150.00	17.50	168.00	17.40	147.00	16.90	160.00	16.90
175.00	15.70	152.00	17.10	170.00	17.60	148.00	16.40	197.00	15.10	193.00	16.80	193.00	16.40	192.00	16.90
193.00	16.40	167.00	17.20	195.00	16.80	204.00	16.10	212.00	10.60	200.00	16.60	200.00	17.00	200.00	16.30
200.00	14.70	177.00	16.20	210.00	16.10	221.00	10.60	250.00	6.80	239.00	7.80	215.00	10.80	219.00	10.00
220.00	9.30	187.00	17.20	220.00	10.10	227.00	8.80	300.00	3.40	250.00	6.80	233.00	9.50	247.00	7.50
244.00	8.10	200.00	15.40	250.00	8.70	250.00	6.70	341.00	3.60	300.00	6.60	250.00	7.70	268.00	6.40
254.00	6.10	219.00	10.20	260.00	7.70	292.00	6.00	350.00	2.50	322.00	4.60	300.00	5.20	300.00	5.30
300.00	4.50	250.00	8.20	262.00	6.30	300.00	5.20	400.00	-.50	336.00	4.30	350.00	2.20	350.00	1.50
350.00	-1.60	300.00	5.70	300.00	2.20	350.00	1.70	450.00	-2.70	350.00	3.30	400.00	-.60	400.00	-1.70
375.00	-2.90	314.00	5.60	350.00	-.80	400.00	-2.20			400.00	-1.80	425.00	-2.60	425.00	-3.30
		315.00	4.30	375.00	-2.90	425.00	-4.00								
		325.00	2.10												
		350.00	-.70												
		365.00	-1.20												

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 20

DATE	730418	DATE	730612
SRVY	101	SRVY	103
TIME	1100	TIME	1400
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20.00	6.20	20.00	6.60
100.00	9.00	100.00	9.10
132.00	18.90	132.00	18.60
158.00	17.50	160.00	17.40
193.00	16.70	174.00	17.30
200.00	16.00	181.00	16.30
227.00	8.60	200.00	16.70
250.00	7.50	226.00	10.30
300.00	5.60	245.00	7.90
350.00	.20	266.00	7.90
386.00	-1.80	280.00	6.30
		300.00	4.70
		325.00	.20
		350.00	-2.30

PROFILE 21

DATE	621002	DATE	621011	DATE	621023	DATE	621029	DATE	621108	DATE	621210	DATE	630115	DATE	630121
SRVY	3	SRVY	4	SRVY	5	SRVY	6	SRVY	7	SRVY	8	SRVY	9	SRVY	10
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
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13.00	9.50	25.00	9.00	78.00	5.10	-1.00	11.50	9.00	9.50	11.00	9.50	0.00	10.10	171.00	7.00
51.00	8.30	61.00	6.30	124.00	4.60	17.00	8.90	42.00	8.10	40.00	8.50	7.00	9.90	201.00	4.80
83.00	4.70	76.00	5.10	168.00	7.20	40.00	8.40	79.00	5.60	77.00	6.20	15.00	8.60	251.00	0.00
138.00	5.00	117.00	4.60	209.00	7.10	64.00	6.30	82.00	4.70	114.00	6.20	35.00	8.10	276.00	-.20
181.00	7.30	168.00	7.30	243.00	1.90	82.00	4.20	102.00	5.00	169.00	7.20	51.00	7.20	282.00	-1.10
234.00	4.00	220.00	6.50	267.00	-.40	118.00	4.10	110.00	6.00	217.00	3.70	101.00	5.50	296.00	-1.10
281.00	2.60	265.00	1.70			162.00	6.60	169.00	7.00	305.00	-.10	171.00	7.10	302.00	.10
332.00	-.90	292.00	-.30			202.00	6.90	243.00	3.10	359.00	-1.00	201.00	4.30	327.00	-.70
367.00	-1.80	368.00	-.80			223.00	5.50	285.00	.80	427.00	-1.60	251.00	-1.40		
		408.00	-1.40			261.00	1.40	355.00	-.70			282.00	-2.10		
						297.00	-.80								
						336.00	-1.20								
						369.00	-.80								

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 21

DATE	630128	DATE	630204	DATE	630212	DATE	630220	DATE	630226	DATE	630304	DATE	630311	DATE	630319
SRVY	11	SRVY	12	SRVY	13	SRVY	14	SRVY	15	SRVY	16	SRVY	17	SRVY	18
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
50.00	7.30	50.00	7.30	50.00	7.20	101.00	5.50	201.00	5.90	12.00	8.80	127.00	5.60	226.00	5.50
100.00	5.50	100.00	5.80	101.00	5.50	151.00	5.70	225.00	5.50	50.00	7.30	151.00	5.50	251.00	5.40
126.00	5.50	151.00	6.50	150.00	6.10	201.00	5.90	251.00	5.40	101.00	5.50	176.00	5.80	278.00	4.60
150.00	6.30	169.00	6.70	201.00	5.30	229.00	5.70	261.00	5.00	177.00	5.80	228.00	5.70	301.00	2.90
169.00	6.50	226.00	3.80	226.00	3.30	245.00	5.40	275.00	2.60	226.00	5.80	253.00	5.20	328.00	1.90
227.00	3.80	251.00	2.40	252.00	2.90	275.00	5.00	301.00	.10	250.00	5.30	263.00	4.90	351.00	.70
251.00	2.50	301.00	1.80	276.00	2.00	302.00	1.20	326.00	-.90	301.00	2.10	276.00	3.80	371.00	-.10
302.00	1.50	351.00	.70	328.00	1.40	327.00	-1.30			351.00	0.00	301.00	2.10	427.00	-.80
352.00	.60	377.00	.20	352.00	.40					402.00	-1.00	352.00	-.30		
424.00	-1.10	426.00	-1.00	402.00	-.60					427.00	-1.10	401.00	-1.10		
				426.00	-1.20										

PROFILE 21

DATE	630326	DATE	630409	DATE	630528	DATE	630613	DATE	630625	DATE	630711	DATE	630723	DATE	630806
SRVY	19	SRVY	20	SRVY	21	SRVY	22	SRVY	23	SRVY	24	SRVY	25	SRVY	26
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
226.00	5.50	226.00	5.50	-1.00	10.00	201.00	5.40	101.00	5.80	48.00	7.60	-1.00	10.10	-1.20	10.20
252.00	6.90	277.00	4.70	101.00	5.90	252.00	5.80	152.00	5.90	101.00	5.90	50.00	8.40	50.00	6.60
278.00	4.70	302.00	4.20	152.00	5.90	302.00	6.70	202.00	5.20	151.00	6.00	101.00	6.10	101.00	6.40
302.00	3.90	327.00	1.40	201.00	5.40	327.00	4.40	252.00	5.70	200.00	5.10	151.00	6.10	151.00	6.60
327.00	1.90	351.00	.80	253.00	5.60	379.00	-2.00	302.00	6.60	252.00	6.10	202.00	5.30	202.00	5.30
355.00	.70	377.00	.40	302.00	6.20			328.00	4.80	302.00	7.40	252.00	5.50	251.00	5.50
379.00	.10	402.00	-.90	352.00	1.90			352.00	.90	327.00	2.60	300.00	7.10	302.00	7.10
401.00	-.80	428.00	-1.30	403.00	-.70			378.00	-1.10	353.00	0.00	352.00	2.60	328.00	6.10
427.00	-1.10									378.00	-.40	378.00	1.10	376.00	.90
										405.00	-2.00	403.00	.10	403.00	-.30
												427.00	-1.10	428.00	-1.00

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 21

DATE	630820	DATE	630906	DATE	630926	DATE	631010	DATE	631025	DATE	631115	DATE	631227	DATE	640115
SRVY	27	SRVY	28	SRVY	29	SRVY	30	SRVY	31	SRVY	32	SRVY	33	SRVY	34
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
-1.00	10.10	0.00	11.00	-1.00	10.90	-1.00	10.90	0.00	10.80	27.00	9.50	-8.00	10.10	-303.00	3.90
101.00	6.10	25.00	8.00	24.00	9.00	26.00	8.90	76.00	8.40	76.00	6.40	0.00	10.30	-277.00	4.00
151.00	5.90	51.00	6.20	76.00	6.50	76.00	6.00	100.00	5.90	101.00	6.50	26.00	9.80	-252.00	4.60
201.00	5.20	76.00	6.10	151.00	6.60	101.00	5.70	153.00	6.00	128.00	6.90	36.00	11.90	-227.00	6.00
253.00	6.10	100.00	6.90	180.00	6.50	152.00	6.00	203.00	7.00	152.00	7.50	62.00	6.50	-201.00	7.00
302.00	6.30	126.00	5.30	204.00	6.80	178.00	6.80	227.00	6.50	177.00	7.80	101.00	5.20	-176.00	7.50
328.00	3.00	152.00	3.30	228.00	6.80	229.00	7.10	252.00	2.00	203.00	4.20	152.00	6.80	-151.00	7.60
355.00	1.20			253.00	5.20	253.00	2.00	278.00	0.00	227.00	0.00	176.00	7.20	-101.00	7.60
431.00	-1.30			278.00	2.50	278.00	-.10			252.00	-1.10	202.00	6.80	-76.00	7.10
				303.00	.40	302.00	-.70					230.00	4.70	-50.00	7.10
				328.00	-.40							254.00	2.70	-10.00	10.20
												281.00	0.00	1.00	10.20
												303.00	-1.60	41.00	12.10
												329.00	-2.60	91.00	6.50
												355.00	-2.90	152.00	6.60
												402.00	-1.50	228.00	3.20
												427.00	-1.60	278.00	2.20
												480.00	-3.00	331.00	-.10
														375.00	-1.40

PROFILE 21

DATE	640212	DATE	640310	DATE	640407	DATE	640525	DATE	640623	DATE	640829	DATE	640924	DATE	641201
SRVY	35	SRVY	36	SRVY	37	SRVY	38	SRVY	39	SRVY	40	SRVY	41	SRVY	42
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
86.00	6.50	-1.00	9.90	25.00	11.50	0.00	11.10	25.00	11.10	0.00	11.10	6.00	13.00	5.00	11.70
101.00	6.00	28.00	10.60	51.00	11.40	25.00	11.20	50.00	11.30	25.00	11.20	46.00	11.70	46.00	12.00
132.00	5.90	44.00	12.00	76.00	8.30	51.00	11.40	75.00	7.70	50.00	10.90	75.00	7.90	76.00	8.80
151.00	6.20	91.00	6.60	102.00	6.50	76.00	7.80	102.00	6.30	85.00	6.50	151.00	8.80	101.00	7.10
202.00	2.10	127.00	6.20	128.00	6.80	101.00	6.20	128.00	6.70	101.00	6.10	171.00	8.80	126.00	7.50
253.00	.30	178.00	6.00	151.00	6.00	127.00	6.80	153.00	6.30	177.00	7.00	175.00	6.40	152.00	7.50
303.00	-.80	203.00	4.70	177.00	6.20	152.00	6.40	177.00	6.80	202.00	7.60	202.00	2.40	170.00	7.00
322.00	-2.00	227.00	2.50	202.00	5.00	177.00	4.80	202.00	6.00	227.00	6.80	252.00	.70	203.00	3.70
		252.00	1.00	228.00	5.10	203.00	4.50	228.00	4.90	238.00	6.80	280.00	-.40	227.00	.90
		279.00	.50	255.00	1.90	227.00	4.60	278.00	1.30	278.00	2.00			253.00	-.40
		318.00	-2.00	280.00	.20	278.00	1.30	304.00	-1.10	303.00	0.00			278.00	-1.40
				303.00	-.40	304.00	.10	328.00	-2.50	330.00	-1.50				
				353.00	-2.20	329.00	-1.50			353.00	-2.50				
						354.00	-2.40								

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 21

DATE	650119	DATE	650427	DATE	650907	DATE	651027	DATE	651222	DATE	660125	DATE	660321	DATE	660922
SRVY	43	SRVY	44	SRVY	45	SRVY	46	SRVY	47	SRVY	48	SRVY	49	SRVY	50
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
80.00	9.10	6.00	11.70	-1.00	11.10	0.00	10.90	0.00	9.80	-1.00	10.40	-1.00	10.10	0.00	12.10
101.00	7.70	46.00	11.90	26.00	11.50	38.00	11.40	37.00	11.60	35.00	11.60	35.00	12.20	30.00	11.80
127.00	5.70	51.00	10.90	51.00	10.70	80.00	7.80	101.00	6.90	82.00	7.20	49.00	11.80	67.00	6.30
151.00	4.90	101.00	7.30	75.00	8.20	102.00	7.20	141.00	7.00	128.00	4.80	74.00	8.30	86.00	7.90
177.00	2.40	127.00	5.90	101.00	7.30	151.00	7.30	176.00	1.70	201.00	1.50	100.00	6.30	102.00	6.20
229.00	.40	151.00	2.50	127.00	6.00	177.00	5.00	202.00	.40	252.00	0.00	126.00	5.10	129.00	4.60
252.00	-.20	202.00	-1.70	176.00	6.80	202.00	3.20	228.00	-.60			176.00	1.50	178.00	.90
279.00	0.00			196.00	6.90	227.00	1.90	252.00	-1.40			201.00	.10	201.00	0.00
304.00	.20			227.00	2.90	253.00	.90	303.00	-2.00			251.00	-3.00	252.00	0.00
354.00	-.10			253.00	.90	303.00	-1.20	328.00	-1.90					276.00	-.20
378.00	-.40			278.00	0.00			354.00	-2.70					327.00	-1.50
404.00	-.80			303.00	-1.00			378.00	-3.00					352.00	-.20
429.00	-1.00			328.00	-3.00			403.00	-3.10					377.00	-1.10
454.00	-1.80														
480.00	-2.10														

PROFILE 21

DATE	670116	DATE	670510	DATE	670920	DATE	671218	DATE	680117	DATE	680227	DATE	680327	DATE	681009
SRVY	51	SRVY	53	SRVY	54	SRVY	55	SRVY	56	SRVY	57	SRVY	58	SRVY	59
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
1.00	10.50	0.00	9.90	25.00	11.90	0.00	9.90	0.00	10.30	0.00	9.90	0.00	10.00	0.00	9.00
26.00	11.10	36.00	10.50	55.00	7.10	25.00	9.30	34.00	9.80	37.00	9.40	25.00	9.00	20.00	7.00
45.00	10.70	50.00	9.40	100.00	7.60	36.00	10.20	50.00	8.20	101.00	2.90	40.00	9.20	50.00	6.00
55.00	6.90	100.00	5.20	151.00	4.10	45.00	8.10	100.00	4.70	151.00	.40	49.00	6.40	100.00	3.40
101.00	5.40	151.00	.40	176.00	1.70	76.00	5.30	150.00	2.60	201.00	-1.60	100.00	2.80	150.00	1.10
126.00	1.50	202.00	-3.00	202.00	.60	100.00	3.70	200.00	1.10	230.00	-3.60	194.00	-2.70	200.00	-1.70
151.00	0.00	226.00	-3.50	250.00	0.00	124.00	1.00	251.00	-.90			224.00	-2.70	250.00	-2.70
202.00	-.10	252.00	-3.70	302.00	-1.00	137.00	0.00	300.00	-2.60						
226.00	-.40	276.00	-3.30	328.00	-1.70	189.00	-.80	325.00	-3.10						
277.00	-1.90	302.00	-2.90	352.00	-1.10	201.00	.60								
		327.00	-1.80	377.00	-1.50	227.00	.20								
		352.00	-1.70	402.00	-2.50	252.00	.20								
		377.00	-2.50			302.00	-.90								
						352.00	-2.50								
						377.00	-2.40								

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 21

DATE	681023	DATE	681113	DATE	681218	DATE	690115	DATE	690213	DATE	690304	DATE	690528	DATE	690924
SRVY	60	SRVY	61	SRVY	62	SRVY	63	SRVY	64	SRVY	65	SRVY	66	SRVY	67
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
0.00	9.80	0.00	8.40	0.00	8.50	0.00	7.70	0.00	7.80	0.00	8.30	0.00	8.80	0.00	8.40
10.00	7.70	50.00	6.60	50.00	7.80	25.00	6.80	25.00	7.20	25.00	7.60	50.00	9.30	25.00	9.00
25.00	8.30	100.00	4.50	100.00	7.00	50.00	7.20	50.00	7.50	50.00	6.40	100.00	7.10	50.00	6.90
45.00	9.00	136.00	3.70	125.00	6.50	75.00	7.60	77.00	7.80	75.00	5.40	141.00	7.60	75.00	8.50
50.00	7.10	150.00	2.90	150.00	5.00	100.00	7.50	100.00	4.00	100.00	4.40	150.00	5.70	100.00	8.80
75.00	5.90	200.00	.80	175.00	2.90	125.00	7.10	125.00	2.60	150.00	2.60	200.00	.70	125.00	5.50
100.00	4.00	250.00	-.20	200.00	.80	137.00	6.90	150.00	1.70	200.00	.50	250.00	-1.00	140.00	3.90
125.00	3.10					150.00	5.90	200.00	.60	250.00	.10	300.00	-1.30	150.00	3.30
150.00	2.20					175.00	3.60	250.00	-.60	275.00	-.30	350.00	-1.50	175.00	2.20
175.00	.80					200.00	.40	300.00	-1.50			400.00	-2.20	200.00	.70
						225.00	-1.50	350.00	-2.20			450.00	-.90	225.00	-.10
						250.00	-4.80					500.00	-1.30	250.00	-.20
												550.00	-2.60	275.00	-.60
														300.00	-1.50

PROFILE 21

DATE	691020	DATE	691118	DATE	691218	DATE	700120	DATE	700216	DATE	700319	DATE	700521	DATE	700829
SRVY	68	SRVY	69	SRVY	70	SRVY	71	SRVY	72	SRVY	73	SRVY	74	SRVY	75
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
25.00	9.60	0.00	8.50	0.00	8.80	0.00	8.70	0.00	8.40	25.00	8.30	39.00	8.20	0.00	8.90
50.00	9.60	25.00	9.00	25.00	9.10	25.00	8.50	25.00	8.40	40.00	8.30	45.00	6.30	50.00	8.50
75.00	9.10	42.00	9.00	50.00	6.80	50.00	6.60	50.00	6.30	50.00	6.90	83.00	6.30	100.00	7.60
100.00	8.80	65.00	6.70	75.00	5.00	75.00	5.70	75.00	5.10	63.00	6.40	100.00	4.10	150.00	7.40
125.00	5.60	75.00	6.10	100.00	4.00	100.00	4.10	100.00	4.40	100.00	1.70	150.00	1.90	200.00	4.40
150.00	3.70	100.00	4.90	125.00	2.80	125.00	3.20	125.00	2.70	125.00	.10	200.00	-1.10	250.00	2.00
175.00	2.80	125.00	3.80	150.00	1.60	150.00	2.10	150.00	.80	130.00	-.60			300.00	0.00
200.00	2.00	150.00	2.00	175.00	-.20	175.00	.80	175.00	-.70	175.00	-1.10			350.00	-1.50
225.00	.50	175.00	.60	200.00	-.80	200.00	.20	190.00	-1.20	200.00	-1.80			400.00	-2.50
250.00	-.70	200.00	-.80	250.00	-1.60	225.00	-.90			225.00	-2.50				
275.00	-1.80	225.00	-1.10	300.00	-2.40	250.00	-1.40			250.00	-2.90				
300.00	-1.80	240.00	-1.60	350.00	-3.80	275.00	-2.10								
325.00	-2.90														

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 21

DATE	701012	DATE	701207	DATE	701218	DATE	710112	DATE	710208	DATE	710308	DATE	710408	DATE	710624
SRVY	76	SRVY	77	SRVY	78	SRVY	79	SRVY	80	SRVY	81	SRVY	82	SRVY	83
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
0.00	8.90	0.00	8.30	0.00	8.80	0.00	9.10	0.00	8.40	0.00	8.40	0.00	8.90	0.00	8.80
50.00	8.50	50.00	8.30	25.00	7.90	25.00	7.80	50.00	7.40	25.00	8.20	25.00	9.00	25.00	8.80
100.00	7.40	100.00	5.10	50.00	8.00	30.00	7.80	100.00	5.10	50.00	8.60	50.00	8.50	64.00	8.30
160.00	8.30	150.00	2.10	56.00	5.90	44.00	7.70	150.00	3.20	75.00	7.60	75.00	6.50	100.00	4.40
162.00	7.40	200.00	-.60	100.00	4.40	47.00	6.60	200.00	1.20	100.00	6.20	100.00	4.40	150.00	.20
200.00	3.40	220.00	-1.50	125.00	2.50	75.00	4.50	225.00	.20	125.00	5.70	150.00	2.20	200.00	-2.10
250.00	1.70			137.00	2.00	100.00	2.50	250.00	-.80	150.00	4.80	200.00	0.00	225.00	-3.10
300.00	-.10			150.00	.90	125.00	1.30			175.00	3.50	250.00	-1.80		
350.00	-1.20					150.00	.40			200.00	2.50				
400.00	-2.20					175.00	-.20			225.00	.90				
						200.00	-.80			250.00	-.30				
						225.00	-1.50			260.00	-1.00				
						250.00	-2.00								

PROFILE 21

DATE	710817	DATE	711007	DATE	711214	DATE	720112	DATE	720215	DATE	720223	DATE	720314	DATE	720411
SRVY	85	SRVY	86	SRVY	87	SRVY	88	SRVY	89	SRVY	90	SRVY	91	SRVY	92
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
25.00	8.60	0.00	8.70	0.00	8.60	0.00	8.60	0.00	8.00	0.00	6.70	0.00	8.60	0.00	8.30
66.00	8.80	25.00	8.90	25.00	8.90	25.00	8.70	25.00	6.10	25.00	7.20	25.00	7.50	25.00	8.10
71.00	6.90	43.00	9.40	42.00	8.30	39.00	8.80	50.00	4.60	50.00	6.20	50.00	7.00	67.00	7.20
100.00	4.20	50.00	9.30	56.00	4.60	50.00	6.70	100.00	3.10	100.00	4.60	100.00	5.40	100.00	4.10
125.00	1.60	100.00	4.00	100.00	2.40	100.00	2.80	150.00	1.40	150.00	3.20	150.00	3.50	150.00	1.90
150.00	-.10	150.00	.50	150.00	.60	150.00	.10	200.00	-.80	200.00	1.90	200.00	2.10	200.00	.60
175.00	-.90	200.00	-1.50	200.00	-1.00	200.00	-1.20			250.00	0.00	250.00	.50	250.00	-1.30
200.00	-1.10	250.00	-2.30	225.00	-1.40	225.00	-1.90			284.00	-.30	275.00	-1.00	300.00	-2.60
250.00	-2.00			250.00	-2.00										

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 21

DATE	720824	DATE	721017	DATE	721205	DATE	730103
SRVY	93	SRVY	94	SRVY	95	SRVY	96
TIME	1000	TIME	1200	TIME	1300	TIME	1300
0.00	7.70	0.00	8.00	0.00	7.20	0.00	6.60
50.00	6.00	25.00	7.30	10.00	6.60	25.00	3.20
76.00	6.00	50.00	4.80	15.00	4.90	50.00	1.30
100.00	2.90	75.00	2.40	50.00	2.00	75.00	.50
150.00	.10	100.00	.50	100.00	.30	100.00	-.80
200.00	-.40	150.00	0.00	150.00	-1.80	125.00	-1.70
250.00	-1.00	175.00	-1.00	175.00	-2.90	150.00	-2.70
300.00	-1.60	200.00	-1.90				

DATE	73021[illegible]	DATE	730314	DATE	730325	DATE	730403
SRVY	97	SRVY	98	SRVY	99	SRVY	100
TIME	1000	TIME	1200	TIME	1100	TIME	1300
-50.00	9.40	-50.00	9.30	-50.00	9.40	-50.00	9.10
-33.00	9.70	-37.00	10.00	-37.00	10.00	-44.00	10.30
-30.00	6.80	-29.00	6.70	-26.00	7.50	-35.00	10.00
0.00	4.00	0.00	4.20	0.00	6.50	-28.00	7.70
50.00	1.00	50.00	.40	50.00	4.40	0.00	6.50
100.00	-.60	100.00	-1.20	100.00	2.40	50.00	4.90
150.00	-2.10	150.00	-2.20	150.00	.70	100.00	2.70
200.00	-3.70			200.00	-.30	150.00	1.20
				250.00	-1.00	200.00	-.20
						250.00	-1.70
						275.00	-2.30

PROFILE 21

DATE	730418	DATE	730612
SRVY	101	SRVY	103
TIME	1100	TIME	1400
-50.00	9.20	-50.00	9.00
-36.00	10.00	-43.00	10.60
-27.00	7.60	-35.00	10.10
0.00	6.60	-28.00	7.60
25.00	6.00	0.00	6.40
50.00	4.90	25.00	6.50
100.00	2.00	50.00	6.10
150.00	.60	75.00	6.70
200.00	-1.30	100.00	3.90
230.00	-2.00	150.00	.80
		200.00	-1.90

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 22

DATE	720829	DATE	721016	DATE	721204	DATE	730102	DATE	730212	DATE	730314	DATE	730324	DATE	730402
SRVY	93	SRVY	94	SRVY	95	SRVY	96	SRVY	97	SRVY	98	SRVY	99	SRVY	100
TIME	1400	TIME	1000	TIME	1100	TIME	1000	TIME	1100	TIME	900	TIME	1700	TIME	1300
0.00	13.70	0.00	13.70	0.00	13.60	0.00	13.30	0.00	13.70	0.00	13.70	0.00	13.40	0.00	13.60
39.00	19.80	59.00	18.90	13.00	14.40	25.00	17.20	36.00	20.00	36.00	20.00	12.00	14.00	38.00	20.30
54.00	18.10	68.00	17.30	37.00	19.60	40.00	19.80	54.00	19.10	65.00	17.40	40.00	19.90	50.00	18.10
81.00	15.70	100.00	14.20	54.00	18.90	72.00	16.70	80.00	15.70	86.00	14.50	41.00	15.80	84.00	14.70
100.00	15.10	136.00	11.70	69.00	17.10	91.00	14.10	100.00	14.00	100.00	14.60	86.00	14.00	100.00	14.90
150.00	10.00	150.00	11.00	86.00	14.60	100.00	14.00	125.00	12.00	107.00	14.70	100.00	14.30	108.00	14.70
200.00	8.60	180.00	10.10	100.00	13.90	150.00	10.30	150.00	9.70	142.00	10.70	110.00	13.80	113.00	11.90
226.00	9.10	200.00	8.30	150.00	10.90	200.00	7.40	175.00	6.80	144.00	9.50	112.00	11.80	137.00	10.60
230.00	8.30	225.00	5.30	183.00	9.70	219.00	6.60	200.00	4.80	150.00	7.30	150.00	7.80	150.00	6.60
250.00	4.40	250.00	1.80	200.00	7.70	225.00	5.50	235.00	0.00	200.00	2.00	200.00	2.10	200.00	3.60
300.00	-.60	292.00	-1.20	237.00	5.70	250.00	2.00	250.00	-1.10	250.00	-3.40	225.00	-1.00	247.00	-1.20
350.00	-2.70			250.00	4.10	286.00	-2.70							249.00	-3.20
				300.00	0.00										
				320.00	-.90										

PROFILE 22

DATE	730417	DATE	730611
SRVY	101	SRVY	103
TIME	1100	TIME	1000
0.00	13.50	0.00	13.10
38.00	19.70	32.00	19.00
59.00	18.90	59.00	19.20
100.00	13.10	80.00	16.00
106.00	13.90	100.00	14.30
113.00	11.90	110.00	13.40
150.00	9.40	119.00	11.00
169.00	8.20	150.00	9.40
200.00	5.80	191.00	9.60
250.00	-.10	200.00	6.20
300.00	-2.40	230.00	7.70
		250.00	4.90
		300.00	-1.20
		306.00	-2.60

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 23

DATE	720829	DATE	721016	DATE	721204	DATE	730102	DATE	730212	DATE	730314	DATE	730324	DATE	730402
SRVY	93	SRVY	94	SRVY	95	SRVY	96	SRVY	97	SRVY	98	SRVY	99	SRVY	100
TIME	1300	TIME	1100	TIME	[illegible]	TIME	1000	TIME	1100	TIME	900	TIME	1700	TIME	1300
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0.00	13.90	0.00	13.90	0.00	18.00	0.00	13.90	0.00	18.10	0.00	14.10	0.00	14.00	0.00	13.90
20.00	16.00	20.00	16.40	21.00	16.40	32.00	17.30	15.00	16.20	18.00	16.20	19.00	16.10	17.00	16.00
32.00	17.00	32.00	17.40	32.00	17.30	55.00	18.30	52.00	18.60	32.00	17.40	54.00	18.20	31.00	17.30
53.00	18.00	53.00	18.40	54.00	18.40	66.00	17.20	65.00	17.10	52.00	18.90	64.00	17.90	52.00	18.50
65.00	17.10	64.00	17.20	67.00	17.30	85.00	19.50	78.00	19.50	65.00	17.00	78.00	20.00	64.00	16.90
82.00	19.30	78.00	19.60	77.00	19.90	100.00	18.00	100.00	18.20	78.00	19.70	100.00	18.40	78.00	19.50
100.00	18.10	100.00	18.20	100.00	18.10	150.00	12.50	112.00	17.60	100.00	18.20	112.00	18.30	100.00	18.10
154.00	10.50	150.00	12.40	107.00	17.60	175.00	9.10	135.00	15.50	116.00	17.10	136.00	14.00	112.00	17.50
175.00	10.00	154.00	11.30	150.00	12.20	200.00	6.50	150.00	13.10	150.00	12.30	138.00	13.50	136.00	14.00
200.00	9.00	200.00	9.60	155.00	11.30	225.00	4.70	159.00	11.80	161.00	10.60	150.00	10.80	140.00	12.50
222.00	8.70	215.00	9.00	184.00	9.90	250.00	1.70	175.00	9.60	165.00	8.20	200.00	4.90	144.00	11.70
235.00	5.90	235.00	7.60	200.00	8.00	275.00	-2.30	200.00	7.00	200.00	5.30	255.00	-1.90	150.00	9.80
250.00	3.00	250.00	5.50	250.00	3.60			225.00	5.00	250.00	-1.00			200.00	5.10
300.00	-.60	275.00	2.10	300.00	.10			250.00	2.00	256.00	-1.90			250.00	-.90
335.00	-2.10	300.00	-.50	325.00	-1.70			275.00	.10	258.00	-2.80				
		305.00	-2.00												

PROFILE 23

DATE	730517	DATE	730611
SRVY	101	SRVY	103
TIME	1100	TIME	1100
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0.00	19.00	0.00	13.00
12.00	19.60	32.00	17.50
15.00	18.30	54.00	19.00
19.00	18.50	65.00	17.00
32.00	17.30	77.00	19.60
53.00	18.90	100.00	16.70
65.00	17.10	118.00	18.30
79.00	19.50	142.00	14.90
100.00	18.40	159.00	9.30
133.00	14.30	200.00	8.20
143.00	10.20	243.00	7.20
150.00	8.90	250.00	6.40
200.00	5.50	275.00	2.90
250.00	.90	300.00	-.50
275.00	-3.10	305.00	-1.10
		310.00	-1.50

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 24

DATE	720829	DATE	721016	DATE	721204	DATE	730102	DATE	730212	DATE	730314	DATE	730324	DATE	730402
SRVY	93	SRVY	94	SRVY	95	SRVY	96	SRVY	97	SRVY	98	SRVY	99	SRVY	100
TIME	1300	TIME	1100	TIME	1100	TIME	1100	TIME	1100	TIME	900	TIME	1700	TIME	1300
0.00	12.40	0.00	12.50	0.00	12.50	0.00	12.50	0.00	12.50	0.00	12.50	0.00	12.40	0.00	12.40
25.00	19.00	25.00	18.80	30.00	19.10	30.00	18.50	28.00	19.00	28.00	19.10	30.00	19.20	29.00	19.40
33.00	19.00	40.00	16.10	37.00	17.70	39.00	17.40	46.00	15.10	48.00	15.20	44.00	15.00	48.00	14.90
48.00	15.70	58.00	15.70	47.00	15.50	49.00	15.50	55.00	16.10	58.00	15.90	70.00	15.90	61.00	16.00
59.00	16.40	70.00	16.40	57.00	16.20	87.00	16.80	66.00	16.00	68.00	15.80	89.00	17.80	88.00	17.20
100.00	15.70	88.00	16.60	76.00	16.70	100.00	15.40	73.00	16.30	75.00	16.70	100.00	17.10	100.00	16.50
125.00	15.20	100.00	16.10	100.00	16.00	135.00	13.40	85.00	17.00	92.00	16.90	128.00	15.80	109.00	15.50
170.00	10.10	125.00	14.80	124.00	14.00	150.00	12.40	100.00	15.50	100.00	16.10	150.00	12.50	124.00	16.10
192.00	10.30	165.00	10.80	150.00	12.40	200.00	8.40	127.00	15.00	127.00	15.80	200.00	8.00	150.00	12.50
195.00	8.60	200.00	9.60	161.00	11.20	212.00	8.10	150.00	12.10	150.00	12.40	250.00	3.10	178.00	10.50
200.00	8.30	227.00	6.80	185.00	10.60	250.00	3.20	200.00	7.20	200.00	8.40	297.00	-1.70	200.00	6.70
209.00	8.20	250.00	6.80	200.00	9.20	275.00	-.30	250.00	4.10	244.00	6.40			250.00	1.60
225.00	4.80	275.00	5.90	214.00	7.40	300.00	-3.20	275.00	.50	250.00	5.60			300.00	-1.80
250.00	1.50	300.00	1.10	250.00	3.00					300.00	-1.50				
300.00	-2.30	325.00	-.10	300.00	-1.20					325.00	-2.80				
		375.00	-.60												
		400.00	-1.30												

PROFILE 24

DATE	730417	DATE	730611
SRVY	101	SRVY	103
TIME	1100	TIME	1100
0.00	12.50	0.00	12.50
27.00	19.00	23.00	18.80
47.00	15.10	33.00	19.00
73.00	16.50	50.00	15.00
100.00	16.30	61.00	15.90
122.00	16.40	75.00	16.00
140.00	11.90	100.00	16.00
165.00	9.60	132.00	15.70
200.00	5.30	176.00	9.20
225.00	.20	200.00	8.80
250.00	-2.00	206.00	6.80
		208.00	6.70
		225.00	4.30
		250.00	.90
		275.00	-1.10
		325.00	-2.40

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 25

DATE	720829	DATE	721016	DATE	721204	DATE	730102	DATE	730212	DATE	730314	DATE	730324	DATE	730402
SRVY	93	SRVY	94	SRVY	95	SRVY	96	SRVY	97	SRVY	98	SRVY	99	SRVY	100
TIME	1300	TIME	1100	TIME	1100	TIME	1100	TIME	1200	TIME	900	TIME	1700	TIME	1300
0.00	15.30	0.00	15.20	0.00	15.10	0.00	15.00	0.00	15.00	0.00	14.90	0.00	14.90	0.00	14.80
13.00	14.70	12.00	14.70	11.00	14.60	24.00	15.60	22.00	16.00	20.00	15.40	17.00	14.70	10.00	14.10
23.00	16.20	25.00	16.40	25.00	16.20	48.00	15.90	34.00	16.50	33.00	16.40	33.00	16.20	23.00	15.80
42.00	15.80	35.00	16.50	34.00	16.50	62.00	13.80	49.00	15.90	51.00	15.90	50.00	15.50	33.00	16.40
56.00	14.60	48.00	15.80	48.00	16.00	100.00	11.40	66.00	13.10	68.00	13.50	100.00	11.10	58.00	15.10
100.00	10.20	62.00	13.80	60.00	14.10	150.00	7.70	80.00	13.00	88.00	12.90	150.00	8.30	94.00	11.60
150.00	9.60	92.00	11.60	100.00	10.90	200.00	6.90	100.00	11.50	100.00	11.00	175.00	6.20	100.00	11.10
188.00	8.50	100.00	10.90	152.00	9.50	225.00	4.70	150.00	6.50	121.00	6.80	200.00	2.50	150.00	9.70
200.00	6.90	128.00	10.80	196.00	5.40	250.00	.80	200.00	1.00	150.00	6.70	225.00	.40	163.00	9.40
250.00	1.90	143.00	10.80	210.00	5.10	275.00	-2.30	225.00	-.10	200.00	5.30	247.00	-1.70	200.00	4.60
300.00	-2.10	150.00	10.40	250.00	2.00					250.00	.10			225.00	2.60
		180.00	6.60	298.00	-1.80					275.00	-3.70			250.00	-.20
		200.00	4.80											272.00	-1.30
		225.00	1.30												
		241.00	-1.70												

PROFILE 25

DATE	730417	DATE	730611
SRVY	101	SRVY	103
TIME	1100	TIME	1100
0.00	14.90	0.00	14.80
9.00	14.10	12.00	14.10
23.00	15.70	24.00	15.80
34.00	16.40	34.00	16.30
56.00	15.40	50.00	15.80
97.00	11.20	90.00	12.70
145.00	10.00	100.00	11.00
150.00	9.10	150.00	10.00
165.00	6.70	169.00	9.50
185.00	5.80	181.00	7.50
200.00	3.60	200.00	7.00
225.00	.90	228.00	6.60
250.00	-.90	250.00	4.30
275.00	-2.40	300.00	-2.10
		312.00	-3.50

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 26

DATE	720829	DATE	721016	DATE	721204	DATE	730102	DATE	730212	DATE	730314	DATE	730328	DATE	730402
SRVY	93	SRVY	94	SRVY	95	SRVY	96	SRVY	97	SRVY	98	SRVY	99	SRVY	100
TIME	1300	TIME	1100	TIME	1100	TIME	1100	TIME	1200	TIME	900	TIME	1700	TIME	1300
0.00	17.00	0.00	17.00	0.00	17.10	0.00	17.10	0.00	17.00	0.00	16.90	0.00	17.00	0.00	17.00
31.00	16.60	27.00	15.60	19.00	16.60	25.00	15.50	23.00	15.90	32.00	16.00	19.00	16.60	19.00	16.70
42.00	15.50	32.00	16.40	31.00	16.40	55.00	16.50	29.00	16.40	51.00	16.30	45.00	15.50	42.00	15.40
53.00	16.60	41.00	15.60	42.00	15.50	65.00	18.60	42.00	15.40	81.00	18.40	75.00	18.60	53.00	16.40
88.00	18.20	60.00	17.20	52.00	16.50	100.00	16.70	60.00	16.80	94.00	18.00	96.00	18.60	76.00	18.40
100.00	16.60	73.00	17.50	61.00	17.00	116.00	15.40	81.00	18.40	132.00	10.50	100.00	17.60	95.00	16.70
117.00	11.30	85.00	18.20	81.00	18.10	150.00	9.40	97.00	17.60	150.00	9.20	116.00	12.90	100.00	17.70
150.00	10.00	92.00	18.00	88.00	18.30	172.00	8.80	110.00	13.50	183.00	9.00	131.00	10.90	114.00	13.00
170.00	9.70	100.00	16.70	100.00	16.60	200.00	6.20	125.00	11.20	200.00	6.50	150.00	9.30	150.00	9.60
185.00	8.00	107.00	13.70	108.00	14.00	225.00	3.70	150.00	7.90	250.00	.30	187.00	8.40	191.00	9.60
200.00	5.60	110.00	13.80	120.00	11.60	250.00	1.10	200.00	4.50	275.00	-3.50	200.00	6.70	200.00	6.30
250.00	-.50	117.00	11.70	150.00	10.50	290.00	-2.60	225.00	1.30			250.00	-1.20	225.00	4.10
275.00	-2.00	150.00	10.30	181.00	10.20									250.00	.60
		191.00	10.40	200.00	7.60									275.00	-1.40
		225.00	4.00	250.00	3.00										
		250.00	0.00	304.00	-2.30										
		255.00	-1.40												

PROFILE 26

DATE	730417	DATE	730611
SRVY	101	SRVY	103
TIME	1100	TIME	1100
0.00	16.90	0.00	17.00
34.00	15.90	32.00	16.10
51.00	16.50	53.00	16.50
86.00	19.10	69.00	17.80
100.00	18.00	82.00	19.30
124.00	11.80	100.00	18.40
150.00	9.70	133.00	10.60
183.00	9.60	150.00	9.80
200.00	7.90	200.00	8.90
227.00	6.20	214.00	8.10
250.00	2.80	225.00	6.40
300.00	-.70	250.00	2.70
350.00	-2.20	300.00	-1.60
		325.00	-2.50

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 27

DATE	720829
SRVY	93
TIME	1330
0.00	10.80
19.00	17.90
32.00	16.30
57.00	14.10
69.00	14.70
81.00	16.20
90.00	15.00
103.00	10.00
117.00	9.20
118.00	8.50
150.00	4.30
200.00	-.70
225.00	-3.10

DATE	721016
SRVY	94
TIME	1100
0.00	10.90
19.00	17.70
39.00	16.10
50.00	14.60
70.00	15.50
80.00	16.30
88.00	15.50
106.00	10.70
150.00	8.70
180.00	7.30
200.00	4.80
225.00	1.30
236.00	-1.30

DATE	721204
SRVY	95
TIME	1100
0.00	10.50
18.00	17.70
39.00	16.30
53.00	14.80
70.00	14.90
75.00	15.20
83.00	15.40
87.00	15.30
103.00	11.50
108.00	10.50
120.00	10.00
137.00	9.60
160.00	8.10
161.00	6.40
200.00	2.30
236.00	-1.50

DATE	730102
SRVY	96
TIME	1100
0.00	10.60
20.00	17.60
45.00	15.70
66.00	14.50
83.00	16.00
95.00	14.50
100.00	12.60
122.00	9.80
155.00	8.60
200.00	2.70
225.00	0.00
263.00	-3.30

DATE	730213
SRVY	97
TIME	1000
0.00	10.70
14.00	17.60
40.00	16.10
65.00	15.00
72.00	16.00
80.00	14.50
95.00	12.10
100.00	11.50
150.00	8.40
200.00	0.30
250.00	-1.30
265.00	-2.60

DATE	730314
SRVY	98
TIME	900
0.00	11.10
16.00	17.80
46.00	14.60
77.00	16.50
88.00	14.60
94.00	12.30
150.00	8.20
175.00	5.30
200.00	1.50
225.00	-1.70

DATE	730324
SRVY	99
TIME	1700
0.00	10.70
18.00	17.60
37.00	16.10
56.00	15.40
75.00	16.20
89.00	15.00
100.00	12.30
150.00	8.50
175.00	6.20
200.00	3.20
224.00	-1.00

DATE	730412
SRVY	100
TIME	1300
0.00	11.10
15.00	17.70
38.00	16.30
58.00	14.30
78.00	16.10
90.00	14.50
100.00	12.40
150.00	9.40
200.00	3.70
225.00	.50
246.00	-2.60

PROFILE 27

DATE	730417
SRVY	101
TIME	1100
0.00	11.00
17.00	17.60
54.00	14.00
75.00	15.00
82.00	15.00
90.00	14.20
100.00	12.20
150.00	8.20
192.00	6.60
210.00	4.00
250.00	-1.10
300.00	-2.00

DATE	730611
SRVY	103
TIME	1100
0.00	10.70
17.00	17.80
44.00	15.30
63.00	14.60
81.00	16.00
100.00	12.20
150.00	9.00
161.00	9.10
169.00	6.70
200.00	.70
250.00	-1.80
275.00	-2.80

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 28

DATE	720829	DATE	721016	DATE	721204	DATE	730102	DATE	730213	DATE	730314	DATE	730324	DATE	730402
SRVY	93	SRVY	94	SRVY	95	SRVY	96	SRVY	97	SRVY	98	SRVY	99	SRVY	100
TIME	1300	TIME	1100	TIME	1100	TIME	1100	TIME	1000	TIME	900	TIME	1700	TIME	1500
0.00	9.90	0.00	9.80	0.00	9.80	0.00	9.90	0.00	9.80	0.00	9.90	0.00	9.90	0.00	10.00
13.00	14.30	14.00	14.10	18.00	14.50	18.00	14.20	19.00	14.50	20.00	14.60	18.00	14.40	16.[illegible]	14.30
32.00	14.60	40.00	13.70	50.00	15.60	45.00	15.90	66.00	16.50	54.00	15.40	50.00	15.70	43.00	14.70
43.00	16.00	65.00	16.40	111.00	16.80	82.00	16.80	100.00	17.00	90.00	16.80	75.00	17.70	54.00	16.20
51.00	15.60	100.00	16.40	119.00	15.50	100.00	16.80	115.00	16.30	100.00	16.60	100.00	16.60	77.00	17.00
100.00	16.70	116.00	16.40	123.00	11.20	120.00	16.10	127.00	12.10	115.00	15.90	118.00	15.90	100.00	16.0[illegible]
118.00	14.50	132.00	11.60	150.00	9.90	130.00	11.80	150.00	9.80	132.00	11.20	125.00	13.40	116.00	15.70
137.00	10.30	150.00	9.60	180.00	9.00	150.00	9.90	200.00	5.50	150.00	9.70	126.00	12.00	124.00	13.20
150.00	9.00	200.00	5.50	200.00	7.30	200.00	8.00	250.00	-.20	200.00	5.20	150.00	9.50	125.00	12.20
200.00	8.30	225.00	3.50	217.00	5.70	237.00	6.40	300.00	-1.50	250.00	.20	175.00	6.60	150.00	9.60
222.00	8.70	250.00	1.10	242.00	5.70	250.00	5.40			275.00	-3.60	200.00	3.80	200.00	4.40
227.00	7.20	262.00	-1.00	250.00	4.10	275.00	2.20					237.00	-.60	225.00	[illegible]
250.00	4.70			300.00	-.40	300.00	-.80							25[illegible].00	-.30
300.00	.70			320.00	-1.90	332.00	-4.10							267.[illegible]	-1.[illegible]
350.00	-1.90														

PROFILE 28

DATE	730417	DATE	730611
SRVY	101	SRVY	103
TIME	1200	TIME	1100
0.00	9.80	0.00	9.80
20.00	14.80	20.00	14.30
65.00	16.90	70.00	17.10
100.00	16.80	100.00	16.90
109.00	15.50	118.00	15.90
120.00	11.50	130.00	11.80
150.00	8.30	150.00	9.80
200.00	5.80	180.00	9.20
225.00	2.80	200.00	7.10
250.00	-.10	234.00	7.40
275.00	-2.70	250.00	6.20
		275.00	3.20
		300.00	-.20
		316.00	-2.30
		325.00	-3.30

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 29

DATE	720829
SRVY	93
TIME	1200
0.00	19.40
33.00	19.30
45.00	18.50
63.00	18.00
75.00	16.00
85.00	11.80
100.00	9.70
113.00	8.00
144.00	7.80
150.00	6.50
200.00	0.00
225.00	-1.60

DATE	721016
SRVY	94
TIME	1200
0.00	14.20
33.00	19.10
50.00	18.50
62.00	18.20
68.00	11.50
100.00	10.20
138.00	10.20
150.00	9.40
175.00	7.20
200.00	4.20
225.00	1.20
237.00	-1.00

DATE	721204
SRVY	95
TIME	1200
0.00	19.30
33.00	18.70
68.00	18.50
86.00	12.00
100.00	10.40
145.00	9.80
200.00	4.30
250.00	.60
287.00	-2.20

DATE	730102
SRVY	96
TIME	1200
0.00	14.20
30.00	18.90
48.00	18.40
67.00	18.10
77.00	16.40
85.00	12.60
100.00	10.80
150.00	8.20
175.00	8.50
200.00	5.50
250.00	1.00
292.00	-3.70

DATE	730213
SRVY	97
TIME	1000
0.00	19.50
25.00	18.10
50.00	19.00
70.00	18.10
88.00	12.10
100.00	11.00
150.00	7.70
200.00	2.80
250.00	-1.70

DATE	730314
SRVY	98
TIME	900
0.00	14.20
32.00	18.90
68.00	18.50
86.00	12.80
100.00	10.40
136.00	9.30
150.00	7.40
175.00	4.50
200.00	1.40
225.00	-1.80

DATE	730324
SRVY	99
TIME	1800
0.00	19.60
32.00	19.20
50.00	19.10
71.00	18.60
85.00	13.30
100.00	11.50
150.00	7.20
200.00	2.70
241.00	-1.80

DATE	730402
SRVY	100
TIME	1200
0.00	14.30
32.00	18.70
69.00	16.70
86.00	15.10
100.00	11.50
113.00	10.00
150.00	6.10
175.00	2.30
200.00	-.60
220.00	-2.70

PROFILE 29

DATE	730417
SRVY	101
TIME	1200
0.00	14.90
33.00	18.30
68.00	16.70
85.00	13.10
100.00	11.50
150.00	5.30
200.00	-.20
250.00	-3.70

DATE	730611
SRVY	103
TIME	1200
0.00	14.60
33.00	18.70
50.00	18.90
66.00	19.30
75.00	18.00
83.00	15.00
100.00	11.40
133.00	9.10
150.00	7.90
167.00	7.90
200.00	3.90
250.00	-2.10

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 30

DATE	720829	DATE	721016	DATE	721204	DATE	730102	DATE	730213	DATE	730314	DATE	730326	DATE	730402
SRVY	93	SRVY	94	SRVY	95	SRVY	96	SRVY	97	SRVY	98	SRVY	99	SRVY	100
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1100	TIME	900	TIME	1700	TIME	1200
----	------	----	------	----	------	----	------	----	------	----	------	----	------	----	------
0.00	15.90	0.00	15.80	0.00	15.80	0.00	15.90	0.00	15.70	0.00	15.80	0.00	15.80	0.00	15.90
23.00	18.90	25.00	18.80	25.00	18.70	22.00	18.90	19.00	18.60	23.00	18.90	22.00	19.00	22.00	19.10
32.00	18.70	42.00	20.10	41.00	19.90	32.00	18.70	31.00	18.60	30.00	18.40	32.00	18.60	43.00	20.10
41.00	20.00	57.00	16.50	58.00	16.40	43.00	19.80	43.00	19.70	43.00	19.80	43.00	19.80	60.00	16.90
53.00	17.00	65.00	13.00	65.00	13.60	58.00	16.80	60.00	13.30	63.00	15.80	62.00	16.60	78.00	12.20
60.00	15.30	74.00	11.80	78.00	10.90	65.00	13.90	100.00	10.40	78.00	12.00	77.00	12.60	100.00	10.80
65.00	13.00	100.00	9.50	100.00	9.60	81.00	11.30	150.00	8.80	100.00	10.50	100.00	10.80	150.00	9.80
100.00	9.50	150.00	9.20	150.00	10.30	100.00	10.50	200.00	6.90	150.00	8.70	150.00	9.40	185.00	10.10
105.00	9.00	180.00	9.50	167.00	8.00	150.00	8.20	250.00	2.20	200.00	8.20	200.00	6.60	210.00	7.20
110.00	8.00	200.00	7.30	168.00	5.90	170.00	8.50	294.00	-2.30	225.00	5.00	225.00	4.60	225.00	3.70
121.00	8.10	210.00	5.50	200.00	2.30	200.00	2.80			250.00	.60	250.00	.60	250.00	.10
125.00	6.50	225.00	2.30	250.00	-1.10	250.00	-1.40			275.00	-2.10	280.00	-1.90	271.00	-2.80
150.00	2.50	250.00	-1.50			289.00	-3.20								
200.00	-1.60														

PROFILE 30

DATE	730417	DATE	730611
SRVY	101	SRVY	103
TIME	1200	TIME	1200
----	------	----	------
0.00	15.90	0.00	15.90
22.00	19.00	27.00	19.00
42.00	19.80	45.00	20.00
59.00	17.40	61.00	17.40
77.00	12.20	89.00	11.90
100.00	10.50	100.00	10.50
150.00	7.80	140.00	9.80
177.00	10.20	155.00	6.00
200.00	5.90	175.00	2.00
250.00	-.20	200.00	.60
300.00	-2.10	225.00	-2.10

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 32

DATE	620926	DATE	620928	DATE	621011	DATE	621023	DATE	621029	DATE	621108	DATE	621210	DATE	631227
SRVY	1	SRVY	2	SRVY	4	SRVY	5	SRVY	6	SRVY	7	SRVY	8	SRVY	55
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
52.00	10.60	145.00	12.00	145.00	12.30	145.00	12.50	145.00	12.40	137.00	8.60	123.00	14.00	52.00	12.40
58.00	11.30	155.00	9.40	155.00	9.80	155.00	9.00	155.00	10.80	145.00	7.30	126.00	12.00	75.00	16.10
73.00	13.80	158.00	8.40	173.00	7.70	170.00	8.10	170.00	8.10	155.00	6.30	135.00	10.40	100.00	17.20
77.00	13.80	165.00	6.40	177.00	6.30	177.00	7.00	177.00	7.00	170.00	5.50	145.00	9.00	125.00	12.20
80.00	13.80	196.00	3.80	198.00	4.50	198.00	5.80	198.00	5.90	177.00	5.30	155.00	7.80	175.00	7.60
92.00	14.90	218.00	1.60	225.00	1.90	220.00	4.40	220.00	3.40	198.00	3.50	170.00	6.60	210.00	6.70
115.00	14.00	245.00	-.40	245.00	.90	245.00	1.20	245.00	.50	225.00	1.80	177.00	5.30	225.00	5.20
145.00	12.00									245.00	.10	198.00	2.90	250.00	4.10
165.00	7.80											220.00	2.10	275.00	2.20
196.00	4.70											225.00	2.20		
218.00	2.80											245.00	.10		
235.00	.20														
265.00	-1.00														
285.00	-1.50														
300.00	-2.10														

PROFILE 32

DATE	640115	DATE	640212	DATE	640310	DATE	640407	DATE	640525	DATE	640623	DATE	640829	DATE	640920
SRVY	34	SRVY	35	SRVY	36	SRVY	37	SRVY	38	SRVY	39	SRVY	40	SRVY	41
TIME	1200	TIME	1200-	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
52.00	12.20	123.00	13.50	52.00	12.20	52.00	12.30	52.00	12.30	52.00	12.40	25.00	11.90	85.00	17.00
75.00	16.30	130.00	9.00	73.00	16.20	75.00	16.10	75.00	16.20	75.00	16.20	50.00	12.30	97.00	19.50
100.00	18.00	150.00	7.80	87.00	17.60	100.00	19.00	100.00	19.20	86.00	17.10	75.00	16.10	115.00	14.50
125.00	13.20	175.00	7.40	100.00	18.60	123.00	13.70	119.00	14.00	100.00	18.80	100.00	16.90	135.00	13.30
130.00	8.60	200.00	6.20	123.00	13.60	133.00	9.80	134.00	9.40	117.00	14.20	132.00	9.30	150.00	9.30
150.00	7.50	225.00	4.10	130.00	9.50	150.00	8.40	150.00	8.70	134.00	9.40	150.00	8.50	175.00	8.60
175.00	6.10	250.00	2.80	150.00	8.40	175.00	6.30	175.00	8.20	150.00	6.60	175.00	9.80	200.00	8.20
200.00	4.80	275.00	1.40	175.00	7.20	200.00	4.60	200.00	5.50	175.00	8.40	200.00	7.50	225.00	5.90
225.00	4.50	300.00	-.80	200.00	6.80	225.00	1.60	225.00	1.80	200.00	6.60	225.00	7.00	250.00	3.40
250.00	3.70			201.00	4.50	250.00	-.60	250.00	-.50	225.00	3.70	250.00	3.10	275.00	.60
275.00	2.70			225.00	1.30	275.00	-5.60	275.00	-2.60	250.00	1.30	275.00	.50		
300.00	.70			250.00	0.00			300.00	-2.90	275.00	-1.00	300.00	.20		
325.00	-.70			275.00	-1.90					300.00	-1.50				
				300.00	-3.10					325.00	-2.60				
				325.00	-3.00										

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 32

DATE	641201	DATE	650119	DATE	650427	DATE	650907	DATE	651027	DATE	651222	DATE	660125
SRVY	42	SRVY	43	SRVY	44	SRVY	45	SRVY	46	SRVY	47	SRVY	48
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
85.00	16.80	130.00	11.90	105.00	18.60	130.00	10.80	72.00	18.80	100.00	18.90	50.00	11.50
97.00	18.50	150.00	9.50	131.00	10.80	150.00	9.30	105.00	11.20	125.00	12.80	72.00	15.40
115.00	15.50	200.00	7.60	150.00	9.50	200.00	7.80	150.00	8.10	135.00	11.20	91.00	17.60
135.00	10.10	225.00	7.00	175.00	8.00	225.00	6.90	200.00	7.40	150.00	9.20	100.00	18.10
150.00	9.20	250.00	3.50	200.00	8.20	250.00	4.90	225.00	4.60	250.00	4.90	120.00	13.80
175.00	8.60	275.00	1.10	225.00	4.40	275.00	3.10	250.00	2.50	275.00	3.90	130.00	11.00
200.00	7.90	300.00	-.50	250.00	2.20	300.00	.90	275.00	.30	300.00	1.40	150.00	8.80
225.00	7.20	325.00	-1.40	275.00	1.20	325.00	.40	300.00	-2.90	325.00	-1.10	200.00	7.00
250.00	5.60			300.00	-.40			325.00	-3.50	350.00	-2.90	225.00	6.30
275.00	4.00			325.00	-1.60							250.00	5.40
300.00	3.10											275.00	3.50
												300.00	1.00

PROFILE 33

DATE	690924	DATE	691020	DATE	691118	DATE	691218	DATE	700120	DATE	700216	DATE	700314	DATE	70[illegible]
SRVY	67	SRVY	68	SRVY	69	SRVY	70	SRVY	71	SRVY	72	SRVY	73	SRVY	74
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
150.00	9.70	150.00	9.70	150.00	9.60	135.00	10.80	136.00	10.60	134.00	10.60	134.00	11.00	134.00	10.60
190.00	7.90	162.00	9.00	175.00	6.50	150.00	9.70	150.00	9.70	150.00	9.60	150.00	9.70	150.00	9.00
201.00	7.80	182.00	7.90	200.00	8.40	175.00	8.70	200.00	7.50	200.00	7.70	200.00	7.70	200.00	9.50
228.00	8.20	200.00	7.90	250.00	6.60	200.00	8.70	250.00	5.60	250.00	7.60	250.00	7.90	250.00	7.50
251.00	6.00	222.00	8.20	300.00	4.90	210.00	8.50	272.00	5.10	300.00	4.80	300.00	6.80	300.00	7.50
303.00	2.70	250.00	7.30	318.00	4.10	230.00	6.60	300.00	5.90	330.00	3.30	325.00	3.70	325.00	5.90
361.00	.90	268.00	6.20	350.00	1.50	250.00	5.80	300.00	5.90	350.00	1.80	350.00	1.20	350.00	5.50
386.00	.20	285.00	6.10			276.00	4.20	335.00	2.90	400.00	-.70	400.00	-.60	400.00	-.70
411.00	-.70	300.00	4.50			295.00	3.90	350.00	1.90	440.00	-1.70			424.00	-2.00
436.00	-1.60	327.00	1.60			300.00	3.40	400.00	-1.00						
		350.00	.40			329.00	1.00	425.00	-1.80						
		400.00	-3.20			350.00	0.00								
						400.00	-2.40								
						442.00	-4.00								

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 33

DATE 700428		DATE 701012		DATE 701207		DATE 701218		DATE 710112		DATE 710208		DATE 710308		DATE 710408	
SRVY	75	SRVY	76	SRVY	77	SRVY	78	SRVY	79	SRVY	80	SRVY	81	SRVY	82
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
37.00	13.20	32.00	12.90	150.00	9.80	150.00	10.30	150.00	10.30	150.00	10.50	150.00	10.60	150.00	12.40
80.00	19.00	55.00	15.50	200.00	8.50	160.00	9.20	200.00	8.80	200.00	8.00	200.00	8.40	157.00	9.70
100.00	16.30	82.00	18.40	250.00	8.20	200.00	8.60	250.00	6.20	250.00	6.00	250.00	5.90	200.00	8.50
106.00	15.50	100.00	16.30	300.00	6.10	250.00	6.10	300.00	6.70	300.00	3.20	300.00	4.90	250.00	6.10
150.00	9.60	106.00	15.80	350.00	1.80	281.00	4.70	311.00	6.80	350.00	1.20	350.00	3.90	300.00	4.00
158.00	9.40	150.00	9.70	400.00	-3.00	300.00	5.00	350.00	2.50	400.00	-1.70	400.00	.40	350.00	2.40
200.00	7.50	160.00	9.00			324.00	5.80	375.00	.40	450.00	-7.20	450.00	-4.10	375.00	.92
250.00	7.50	200.00	7.50			338.00	4.60	400.00	-2.00					400.00	.60
300.00	7.60	250.00	7.00			350.00	3.10							450.00	-3.50
350.00	1.50	300.00	8.00			400.00	-.60								
367.00	-.30	325.00	4.10												
400.00	-2.30	332.00	3.30												
450.00	-3.90	350.00	1.70												
500.00	-4.00	400.00	-1.40												
550.00	-5.10	450.00	-3.00												
600.00	-5.50														

PROFILE 33

DATE 710624		DATE 710719		DATE 710817		DATE 711007		DATE 711214		DATE 720112		DATE 720215		DATE 721223	
SRVY	83	SRVY	84	SRVY	85	SRVY	86	SRVY	87	SRVY	88	SRVY	89	SRVY	90
TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200	TIME	1200
70.00	17.60	70.00	17.50	42.00	15.70	39.00	13.90	150.00	11.80	150.00	11.90	150.00	12.20	150.00	12.10
88.00	17.90	83.00	18.20	81.00	17.10	50.00	14.60	200.00	8.70	200.00	8.80	200.00	8.70	200.00	8.10
100.00	16.20	100.00	19.00	100.00	16.60	70.00	17.00	250.00	7.30	250.00	7.40	250.00	6.30	250.00	5.10
130.00	10.70	125.00	10.80	105.00	15.90	102.00	16.40	300.00	6.70	277.00	7.40	300.00	5.90	300.00	4.70
142.00	12.20	141.00	12.10	109.00	19.30	110.00	14.30	350.00	2.20	300.00	5.30	350.00	1.70	350.00	4.40
150.00	11.00	160.00	9.90	130.00	10.80	140.00	11.80	375.00	-.20	350.00	1.00	400.00	-.70	375.00	1.30
160.00	10.00	200.00	6.20	140.00	11.80	150.00	11.10	400.00	-3.40	400.00	-5.60	450.00	-3.70	400.00	-.90
200.00	7.80	250.00	7.70	200.00	8.30	175.00	9.40							425.00	-2.30
250.00	7.20	278.00	7.20	263.00	7.90	200.00	8.50								
267.00	7.60	279.00	4.50	300.00	3.50	250.00	7.70								
300.00	4.80	300.00	2.70	310.00	2.60	300.00	3.80								
325.00	2.40	325.00	-.10	350.00	-2.50	325.00	.70								
350.00	-.40			400.00	-7.00	350.00	-1.20								
400.00	-4.90					400.00	-3.60								
450.00	-7.10														

LONG BEACH ISLAND N.J.
DATUM IS MSL MEASUREMENT IS FT

PROFILE 35

DATE	720313
SRVY	91
TIME	1200
150.00	12.10
200.00	8.20
250.00	6.00
300.00	4.70
350.00	2.10
400.00	-1.00

DATE	720911
SRVY	92
TIME	1200
150.00	12.20
200.00	8.30
250.00	6.80
280.00	7.40
285.00	5.00
300.00	6.00
350.00	1.80
400.00	-2.10

DATE	730103
SRVY	96
TIME	1200
0.00	11.60
43.00	13.80
73.00	16.60
100.00	17.20
106.00	16.30
113.00	13.60
145.00	13.00
165.00	10.50
200.00	8.80
250.00	6.70
300.00	5.90
318.00	5.60
350.00	1.90
375.00	-.20
400.00	-1.20
425.00	-3.00

DATE	730213
SRVY	97
TIME	1200
36.90	15.20
70.00	17.00
90.00	18.20
100.00	17.00
104.00	16.10
107.00	14.20
140.00	12.80
161.00	10.30
200.00	8.50
250.00	5.40
300.00	2.30
350.00	1.30
400.00	-1.20

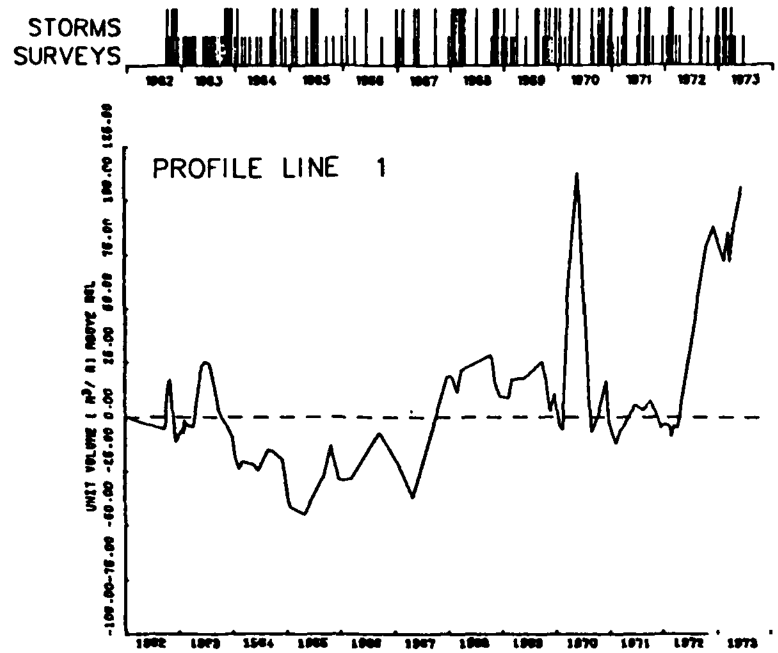
DATE	730314
SRVY	98
TIME	1000
40.00	13.60
71.00	16.50
93.00	17.30
100.00	16.60
107.00	14.30
140.00	12.80
150.00	11.60
200.00	8.50
250.00	7.20
300.00	5.40
325.00	3.50
350.00	1.00
375.00	-1.60
400.00	-3.10

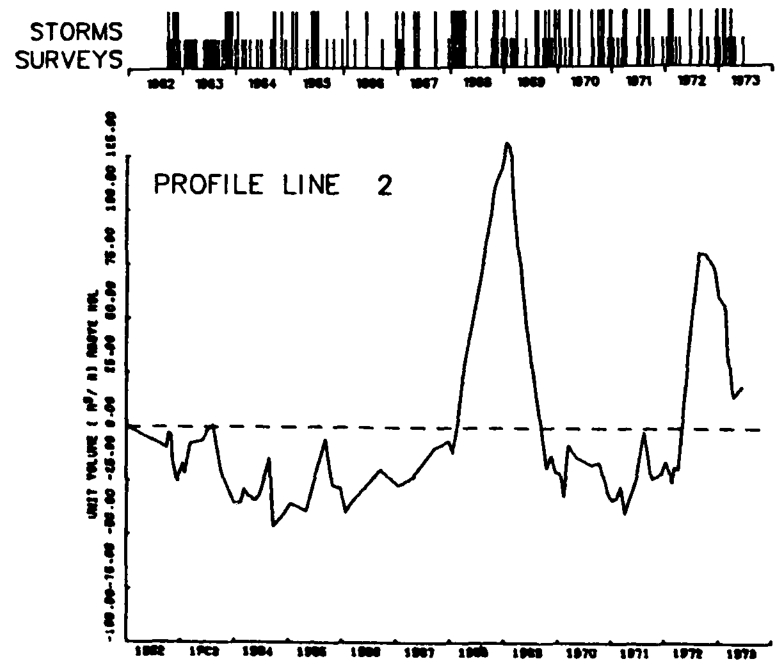
DATE	730430
SRVY	102
TIME	1200
45.00	14.00
60.00	14.90
81.00	17.30
100.00	16.70
106.00	14.50
137.00	13.40
150.00	11.70
200.00	9.10
250.00	8.00
300.00	3.40
350.00	-1.30
375.00	-4.10

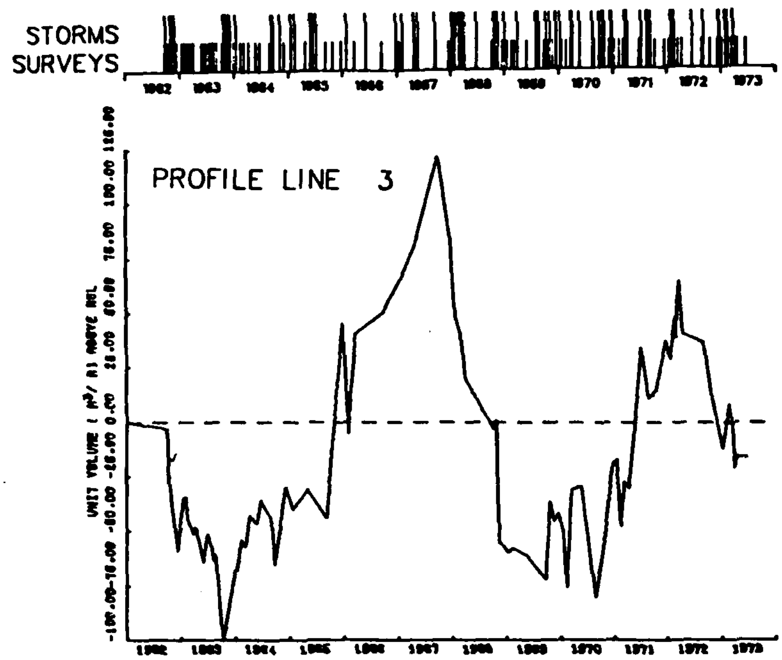
DATE	730612
SRVY	103
TIME	1200
48.00	15.80
81.00	16.90
100.00	16.90
108.00	14.60
134.00	13.00
161.00	11.10
200.00	9.00
254.00	8.10
280.00	6.40
290.00	6.80
300.00	4.70
325.00	1.30
350.00	-.50
375.00	-1.90

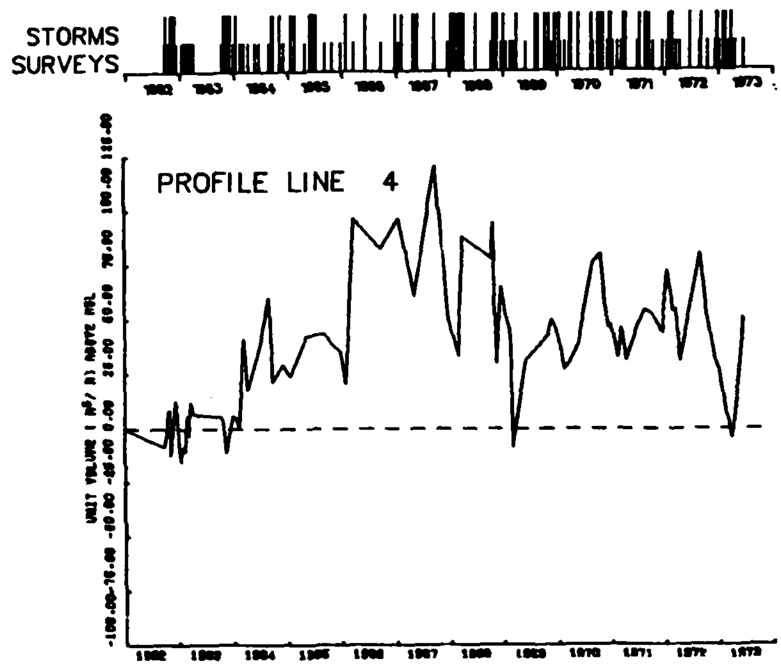
APPENDIX D

ABOVE MSL UNIT VOLUME CHANGE
(referenced to initial survey)


STORMS
SURVEYS
PROFILE LINE 1


STORMS
SURVEYS
PROFILE LINE 2


STORMS
SURVEYS
PROFILE LINE 3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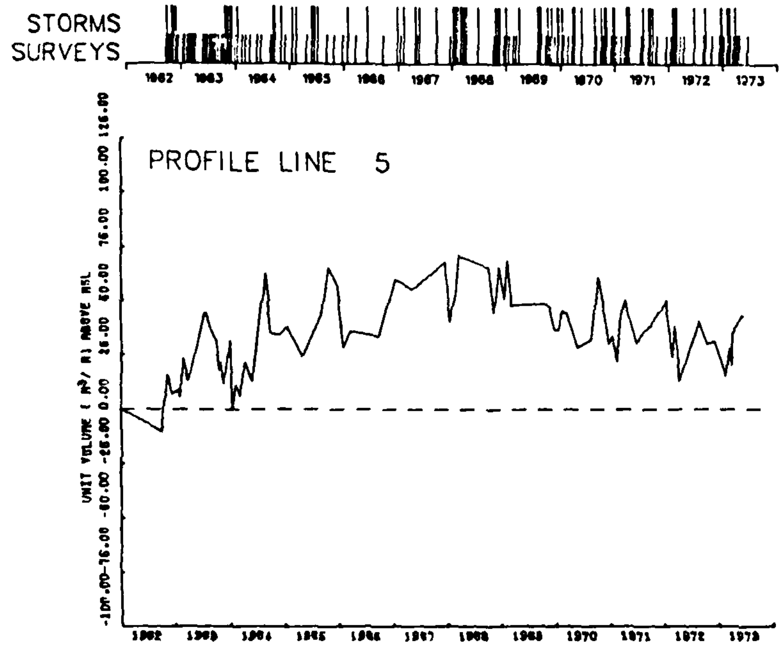
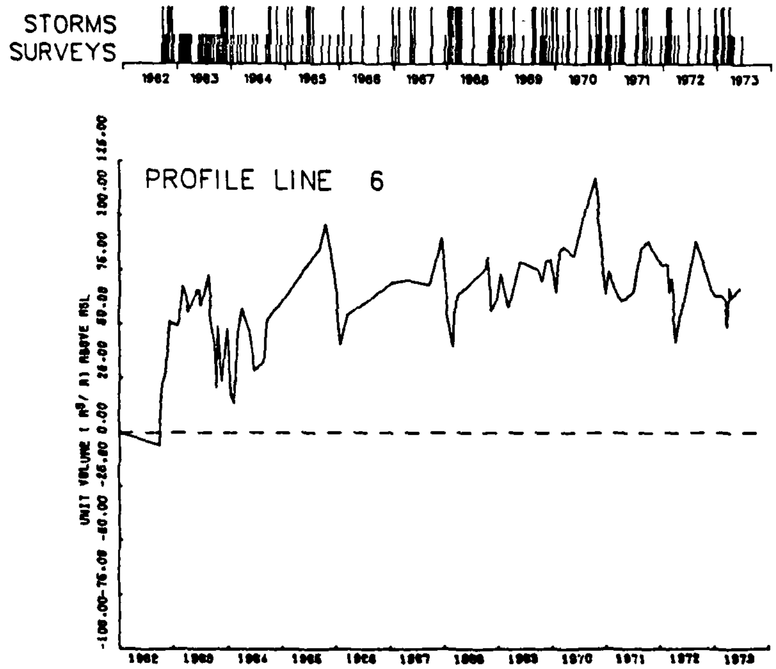
SURVEYS
PROFILE LINE 4


STORMS
SURVEYS
PROFILE LINE 5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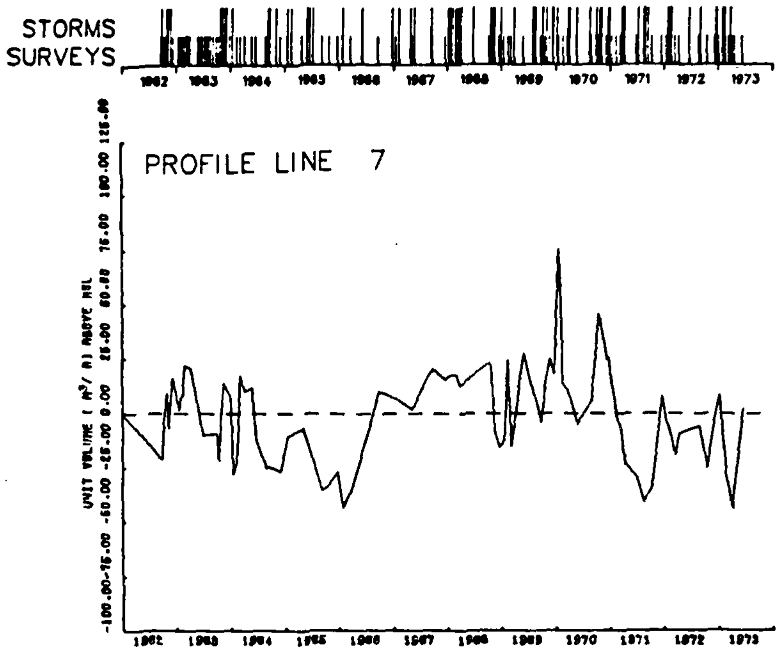
SURVEYS
PROFILE LINE 6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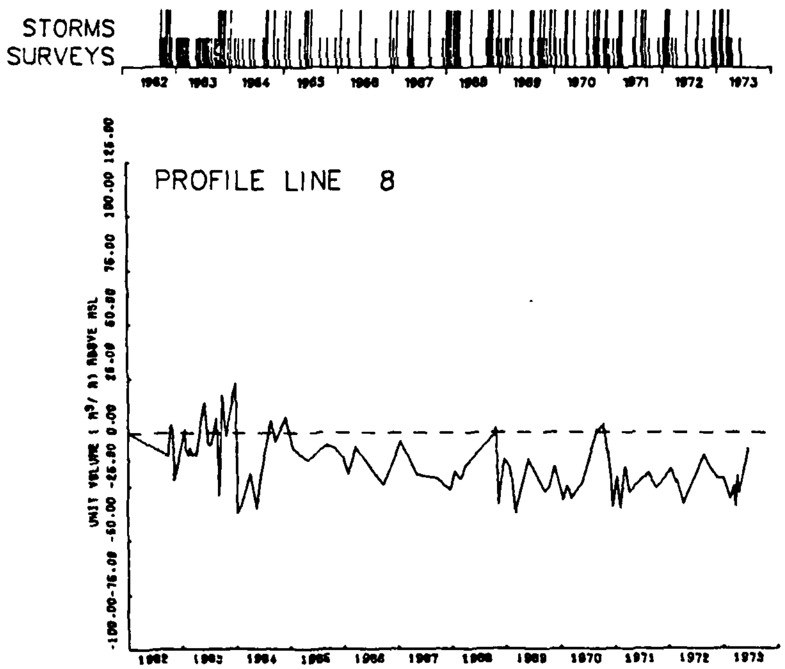
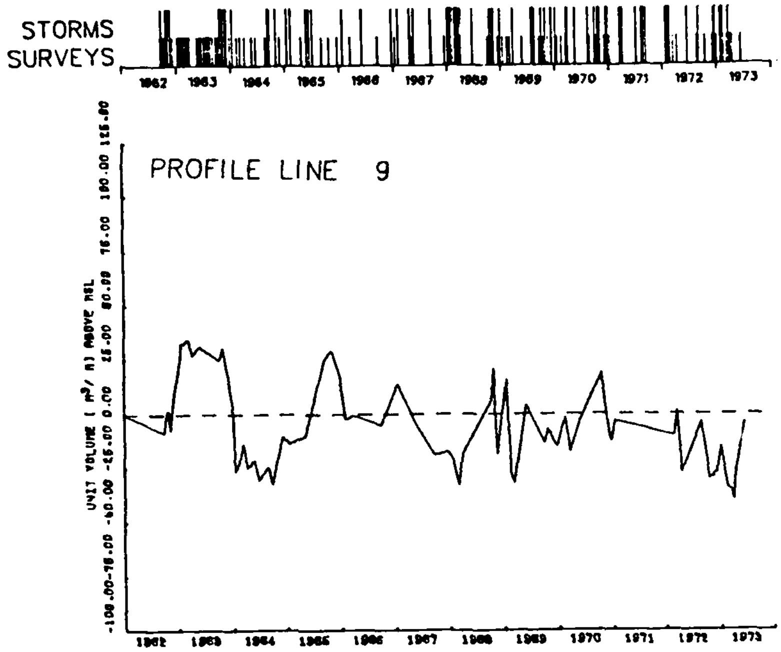
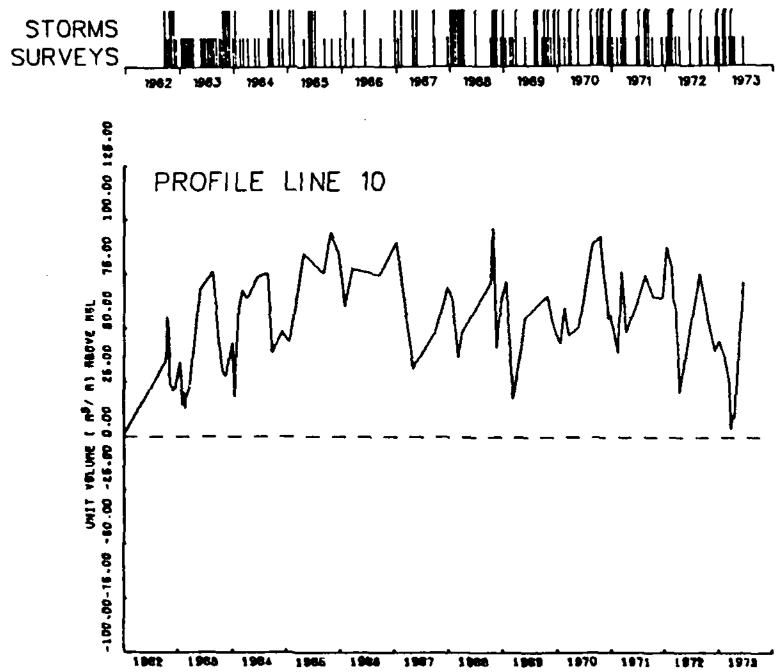
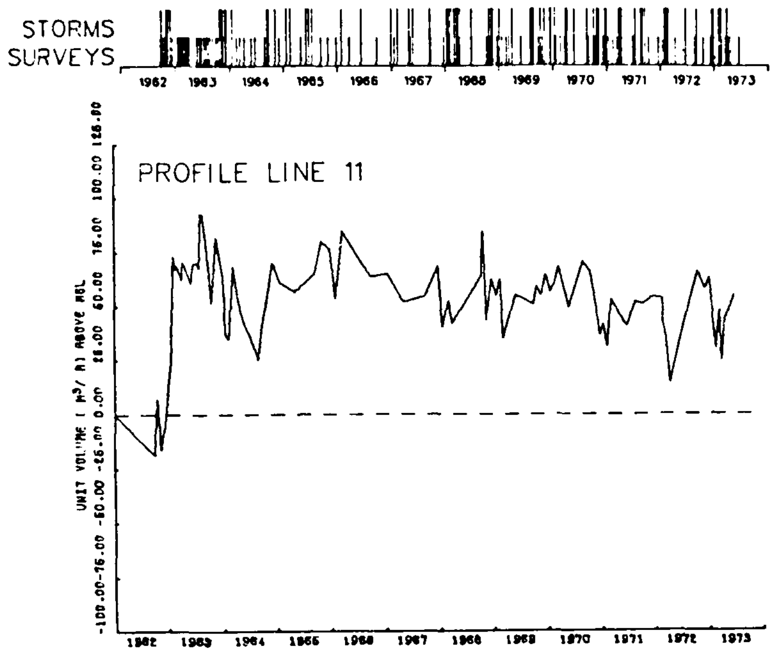
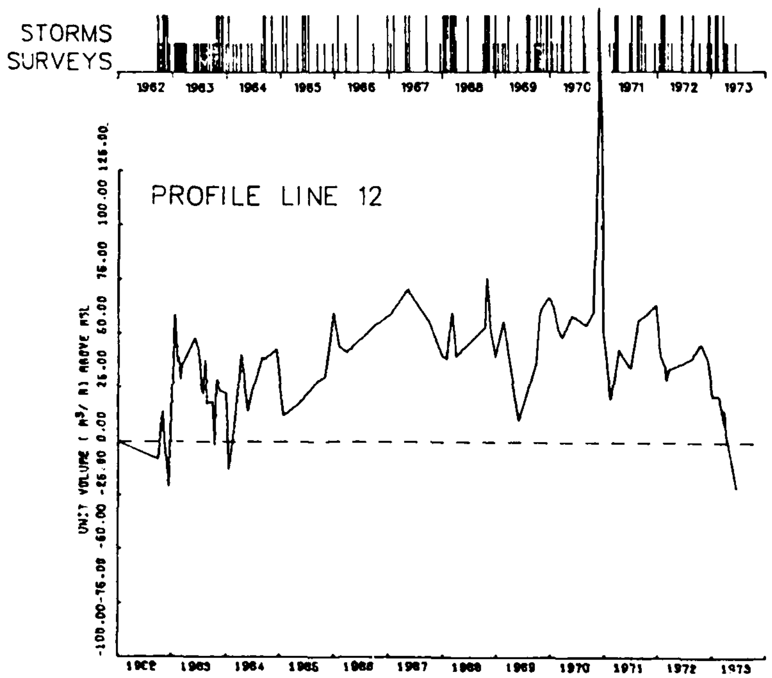
SURVEYS
PROFILE LINE 7
1962 1963 1964 1965 1966 1967 1968 1969 1970 1971 1972 1973

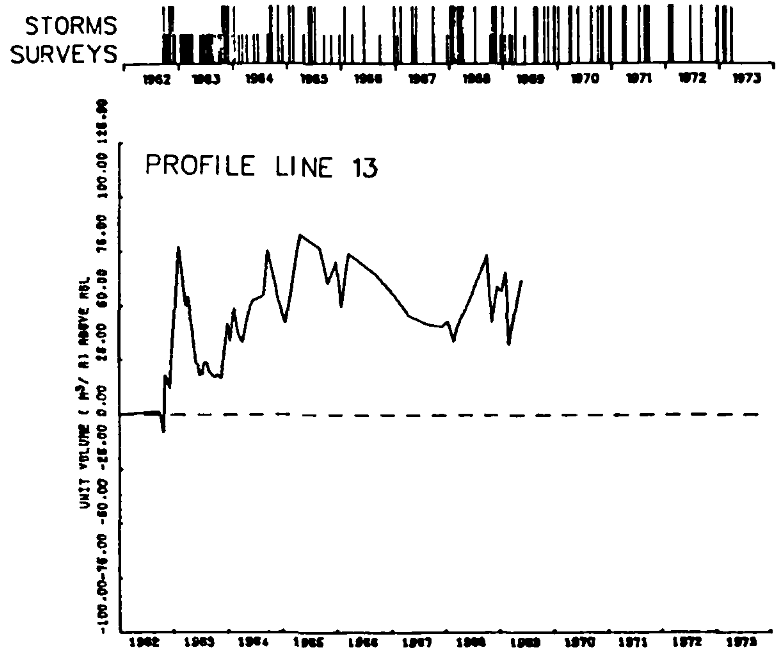

STORMS
SURVEYS
PROFILE LINE 8
1962 1963 1964 1965 1966 1967 1968 1969 1970 1971 1972 1973

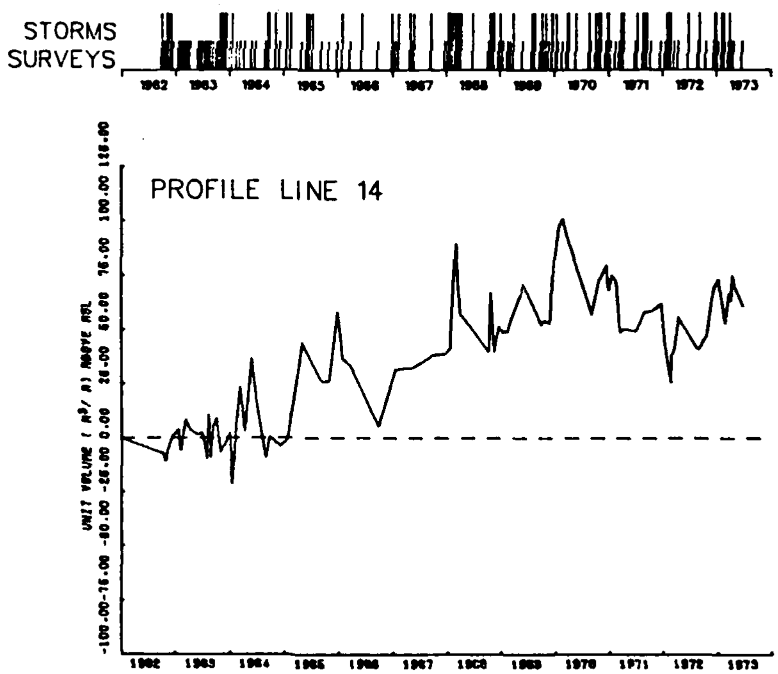

STORMS
SURVEYS
PROFILE LINE 9

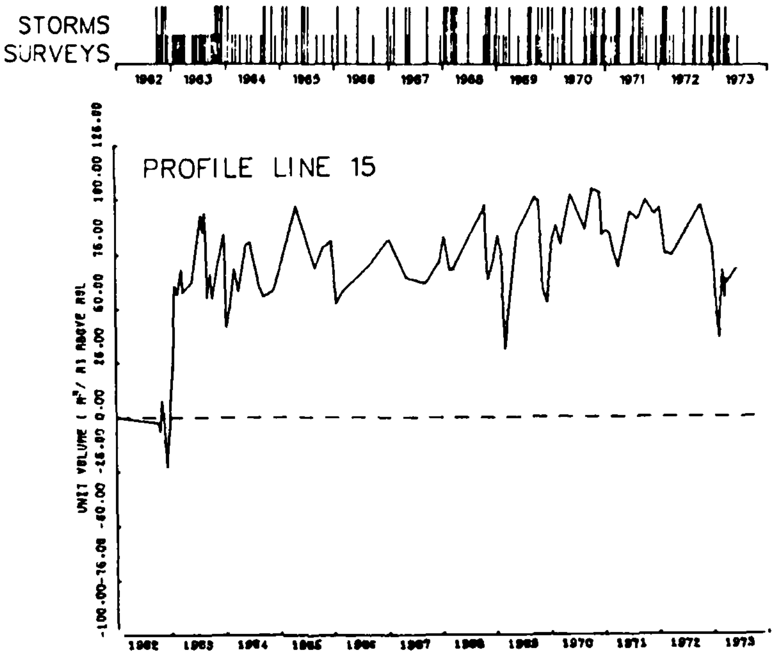

STORMS
SURVEYS
PROFILE LINE 10

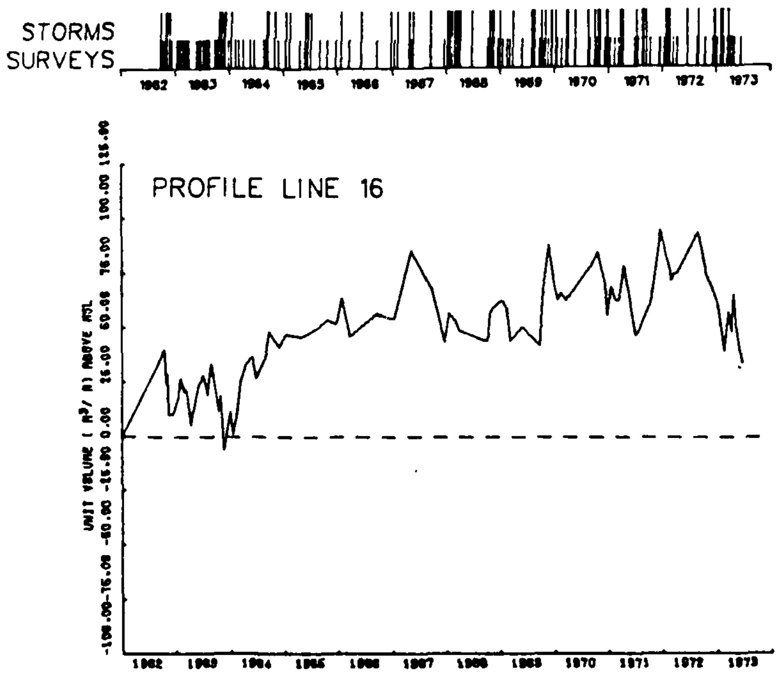

STORMS
SURVEYS
PROFILE LINE 11
UNIT VOLUME (M³/ M) ABOVE MSL

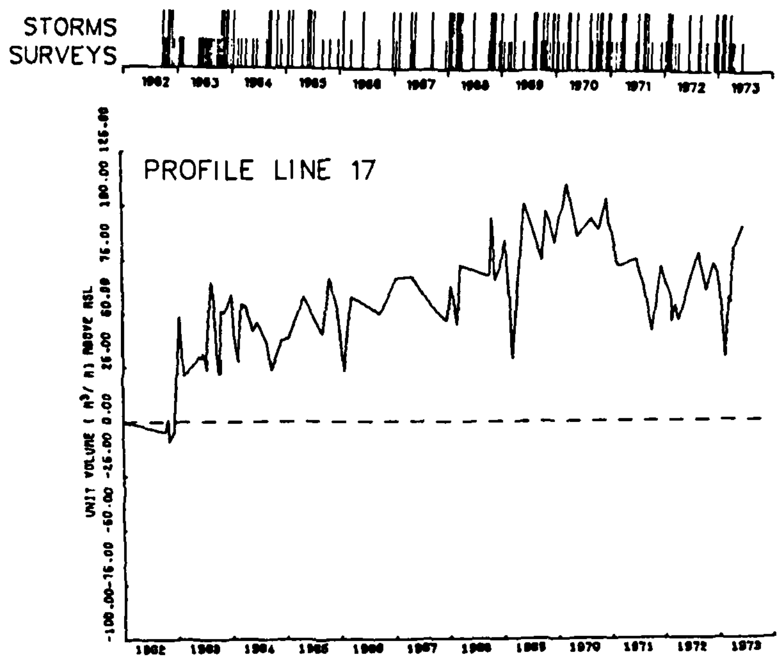

STORMS
SURVEYS
PROFILE LINE 12
UNIT VOLUME (M³/ M) ABOVE MSL


STORMS
SURVEYS
PROFILE LINE 13
UNIT VOLUME (M³/ M) ABOVE MSL


STORMS
SURVEYS
PROFILE LINE 14
UNIT VOLUME (M³/ M) ABOVE MSL


STORMS
SURVEYS
1962 1963 1964 1965 1966 1967 1968 1969 1970 1971 1972 1973
PROFILE LINE 15


STORMS
SURVEYS
1962 1963 1964 1965 1966 1967 1968 1969 1970 1971 1972 1973
PROFILE LINE 16


STORMS
SURVEYS
1962 1963 1964 1965 1966 1967 1968 1969 1970 1971 1972 1973
PROFILE LINE 17
UNIT VOLUME (M³/ M) ABOVE MSL
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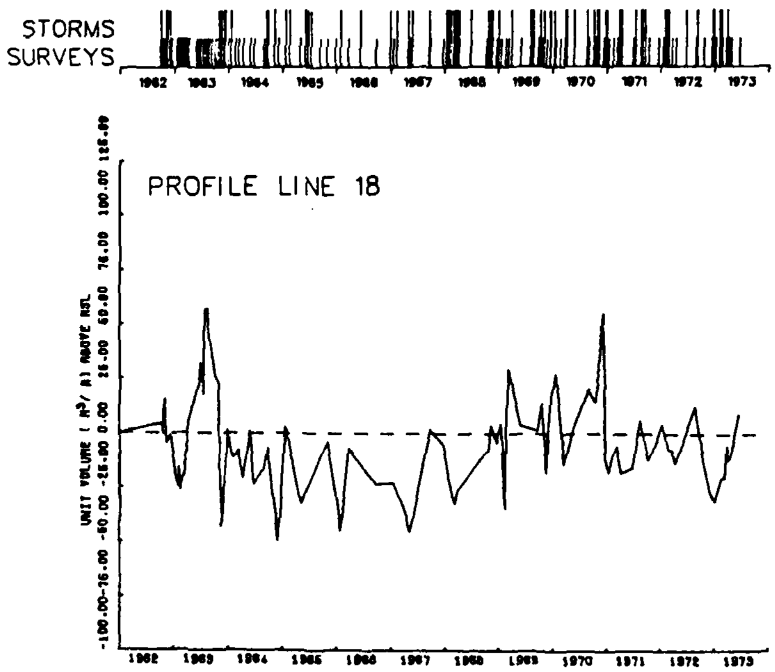
1962 1963 1964 1965 1966 1967 1968 1969 1970 1971 1972 1973


STORMS
SURVEYS
1962 1963 1964 1965 1966 1967 1968 1969 1970 1971 1972 1973
PROFILE LINE 18
UNIT VOLUME (M³/ M) ABOVE MSL
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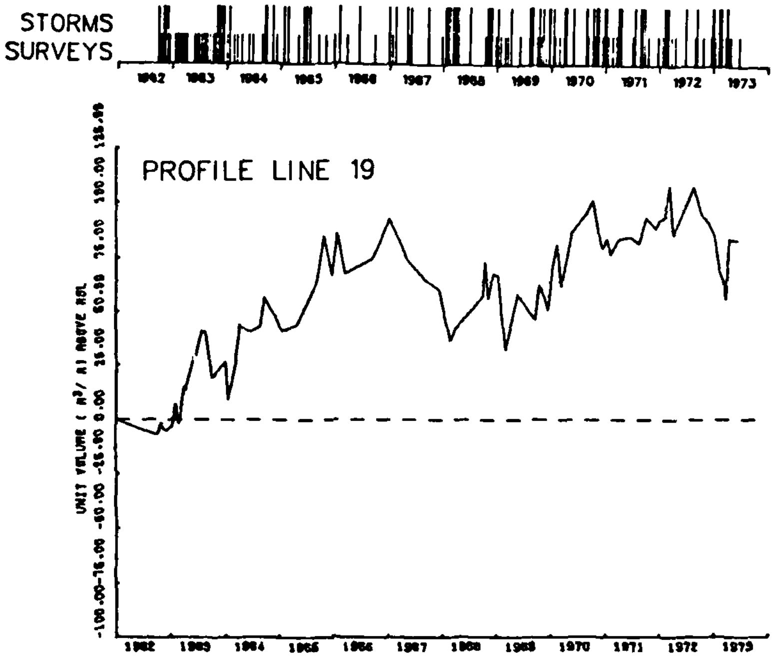
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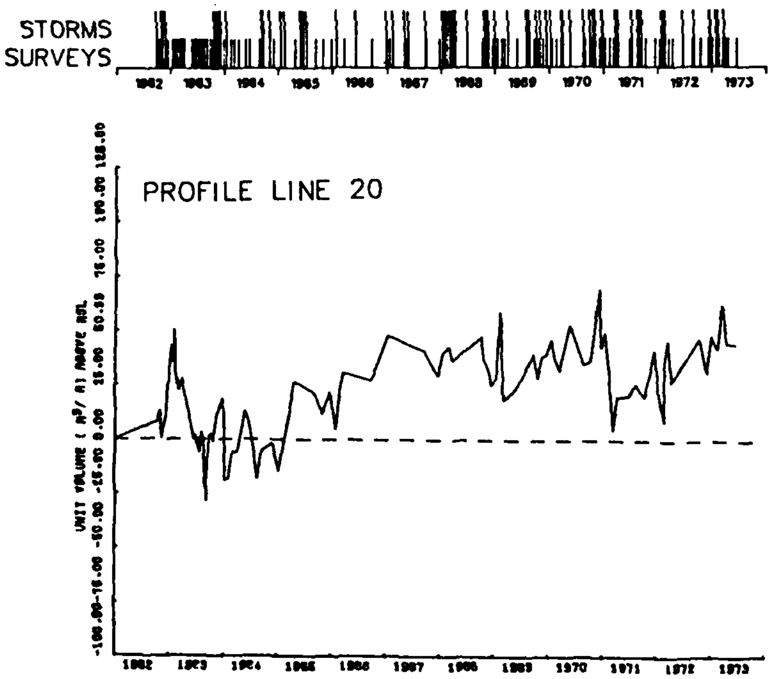
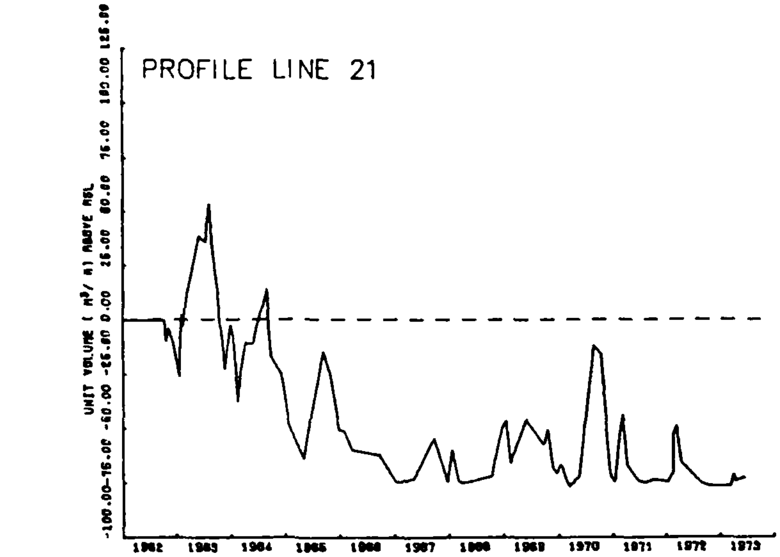
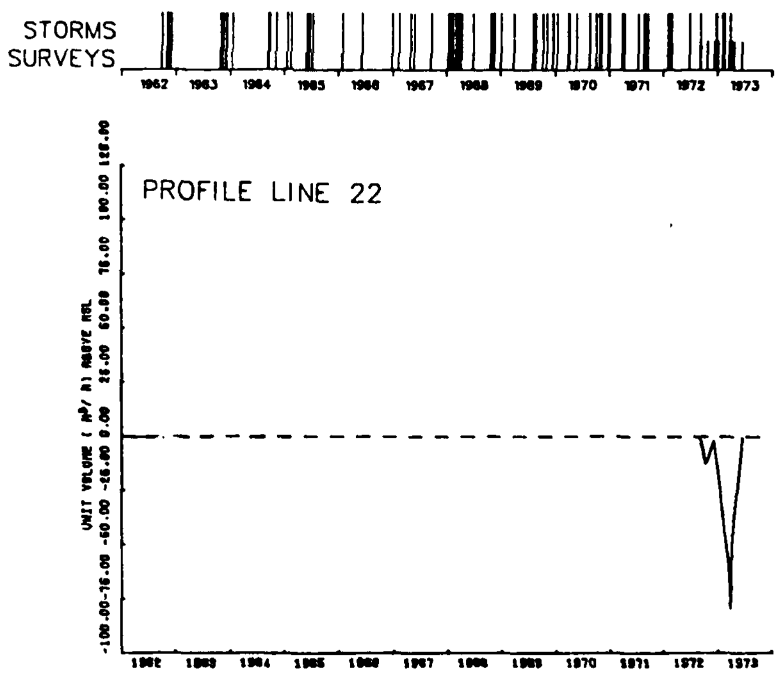
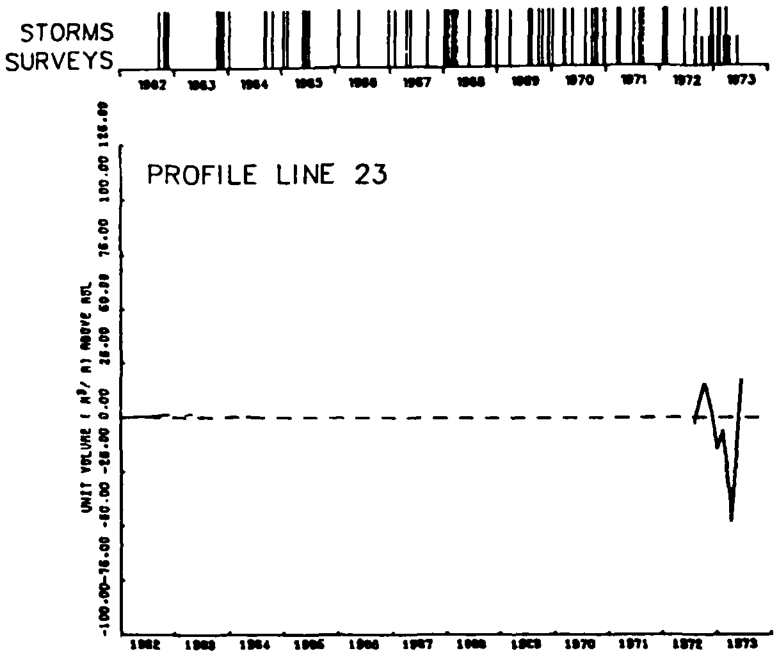
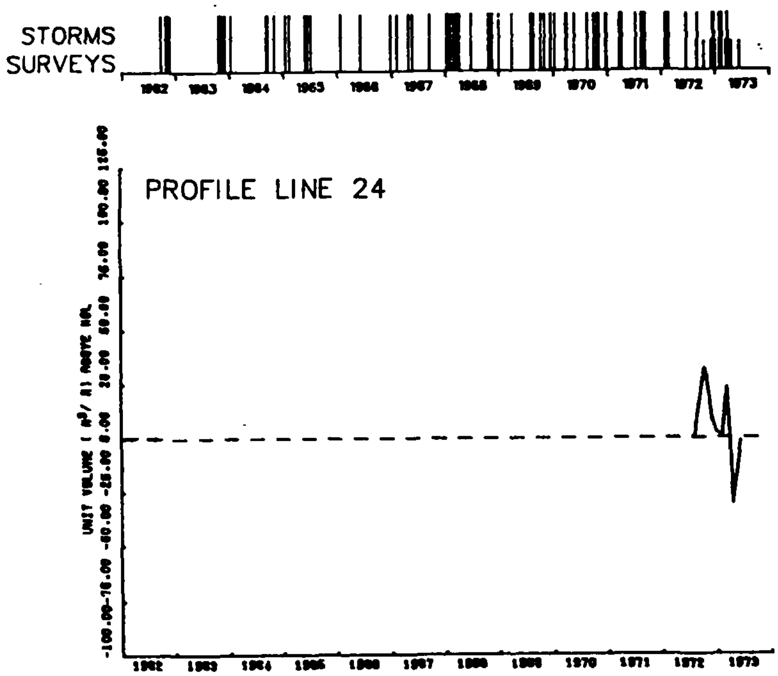
SURVEYS
PROFILE LINE 19

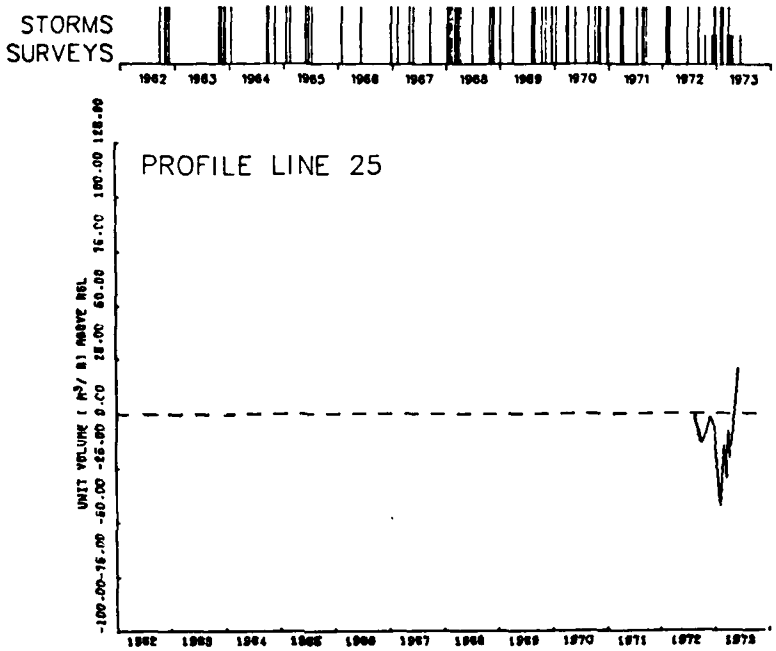

STORMS
SURVEYS
PROFILE LINE 20

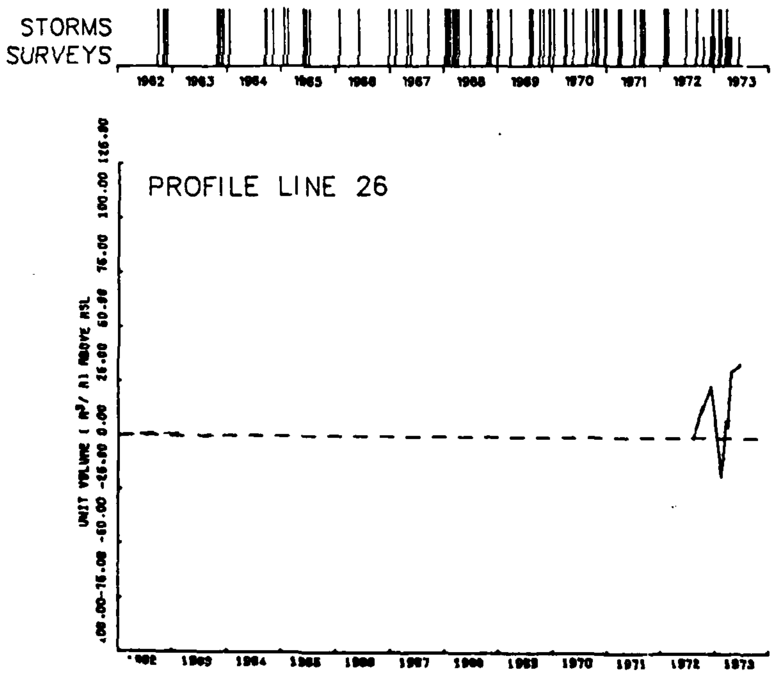

STORMS
SURVEYS
PROFILE LINE 21

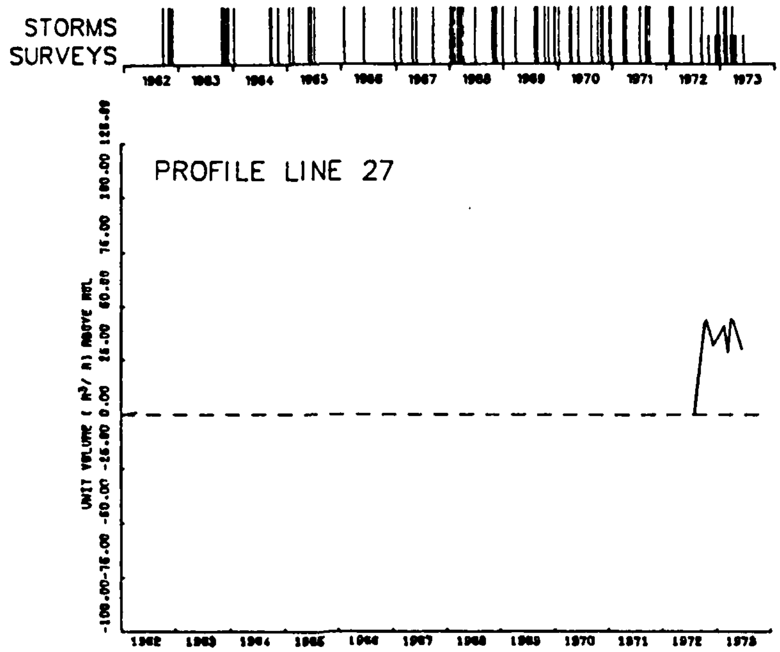

STORMS
SURVEYS
PROFILE LINE 22

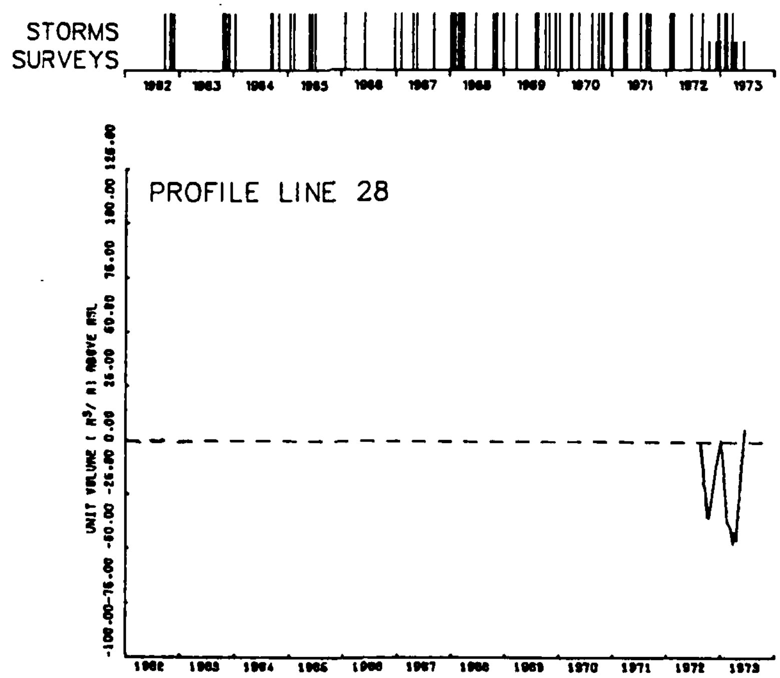

STORMS
SURVEYS
PROFILE LINE 23

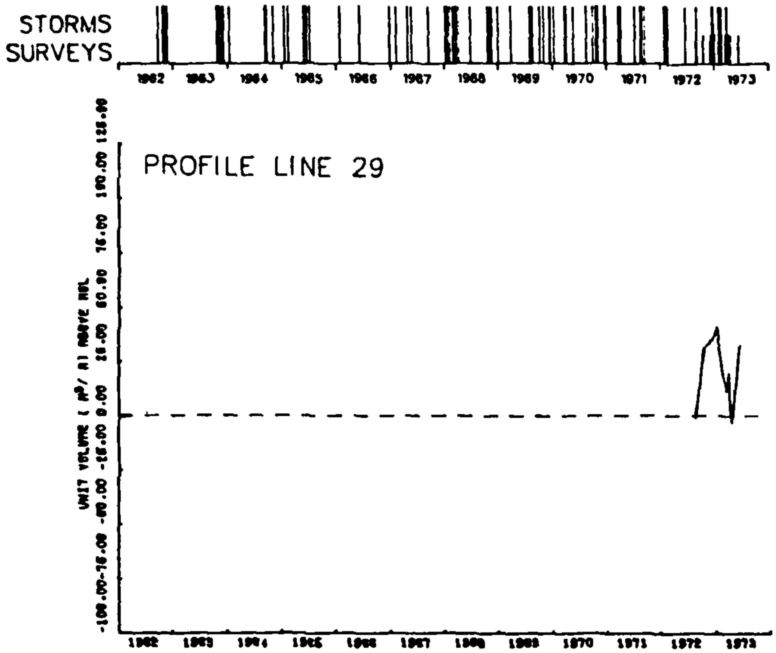

STORMS
SURVEYS
PROFILE LINE 24

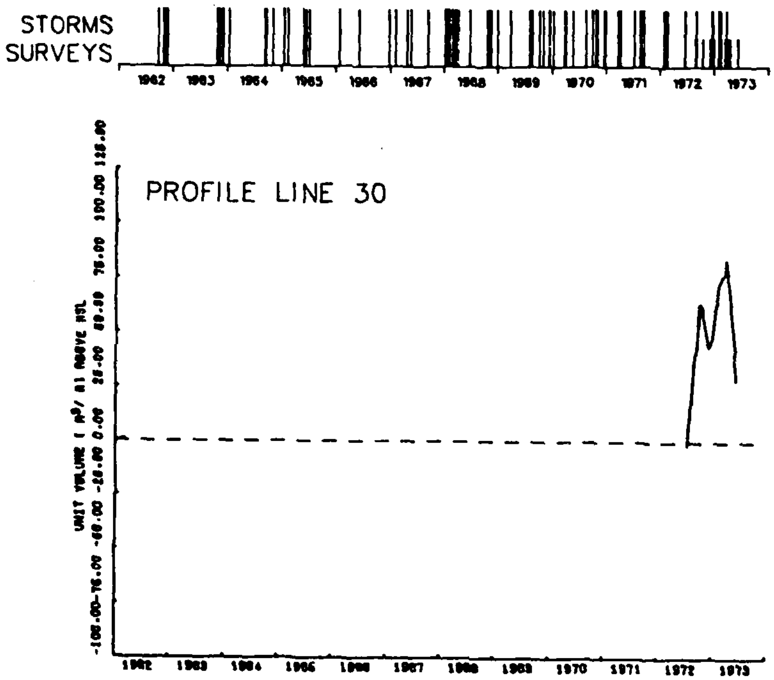

STORMS
SURVEYS
1962 1963 1964 1965 1966 1967 1968 1969 1970 1971 1972 1973
PROFILE LINE 25
UNIT VOLUME (M³/ M) ABOVE MSL

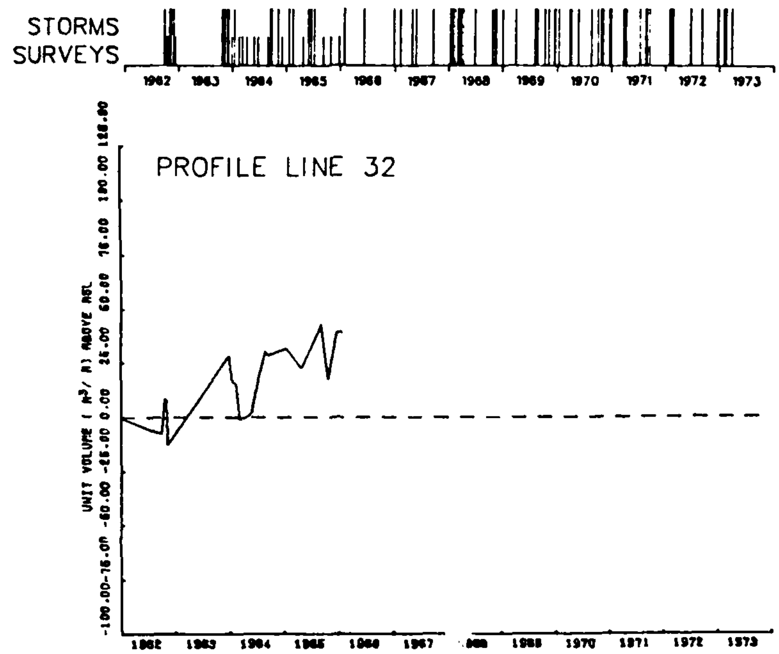

STORMS
SURVEYS
1962 1963 1964 1965 1966 1967 1968 1969 1970 1971 1972 1973
PROFILE LINE 26
UNIT VOLUME (M³/ M) ABOVE MSL


STORMS
SURVEYS
1962 1963 1964 1965 1966 1967 1968 1969 1970 1971 1972 1973
PROFILE LINE 27
UNIT VOLUME (M3/ M) ABOVE MSL
-100.00 -75.00 -50.00 -25.00 0.00 25.00 50.00 75.00 100.00 125.00


STORMS
SURVEYS
1962 1963 1964 1965 1966 1967 1968 1969 1970 1971 1972 1973
PROFILE LINE 28
UNIT VOLUME (M3/ M) ABOVE MSL
-100.00 -75.00 -50.00 -25.00 0.00 25.00 50.00 75.00 100.00 125.00


STORMS
SURVEYS
PROFILE LINE 29

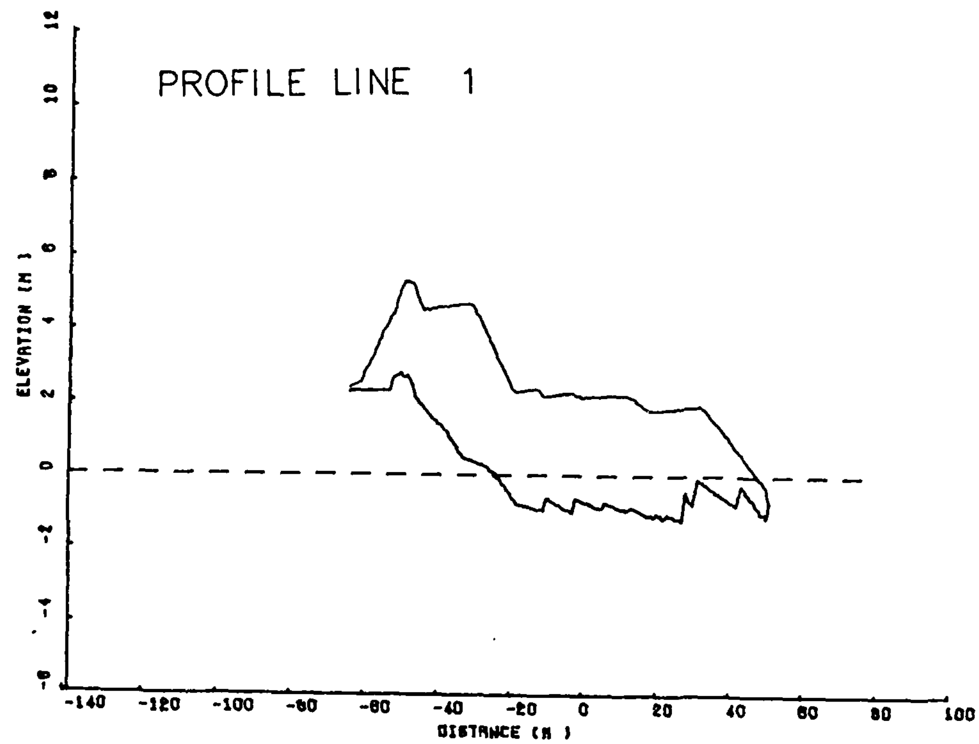

STORMS
SURVEYS
PROFILE LINE 30

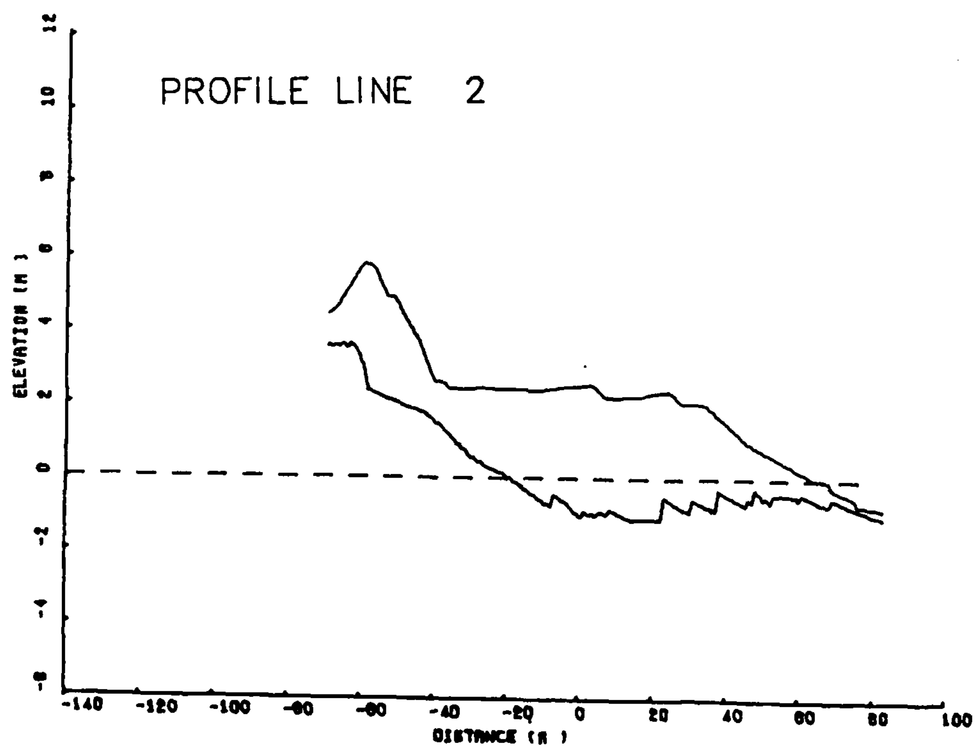

STORMS
SURVEYS
PROFILE LINE 32
UNIT VOLUME (M3/ M) ABOVE MSL

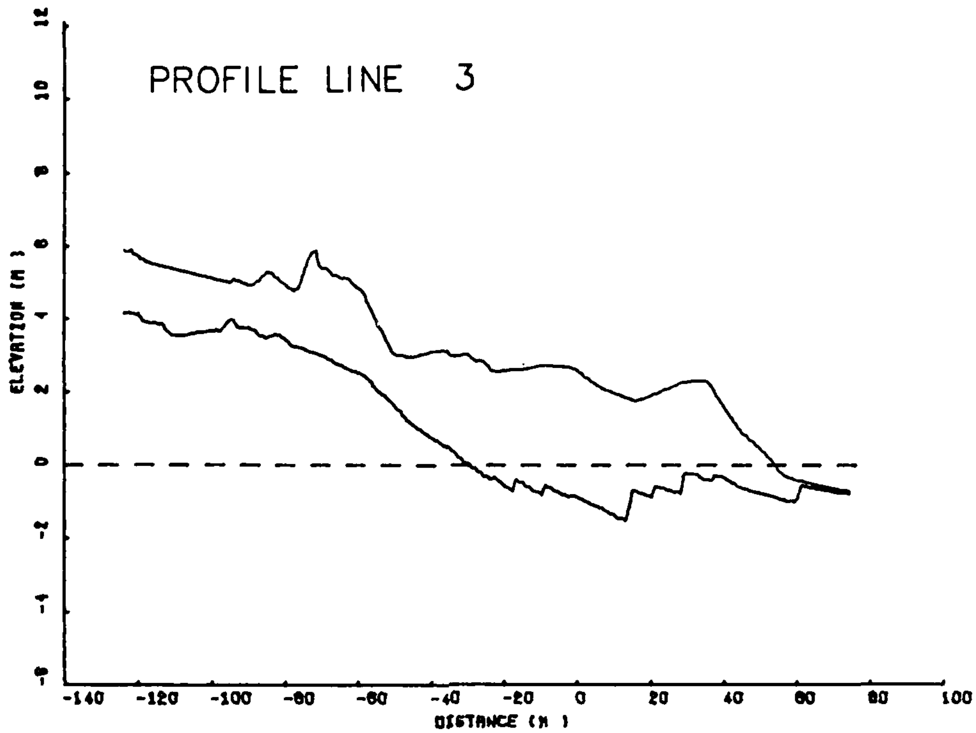
APPENDIX E

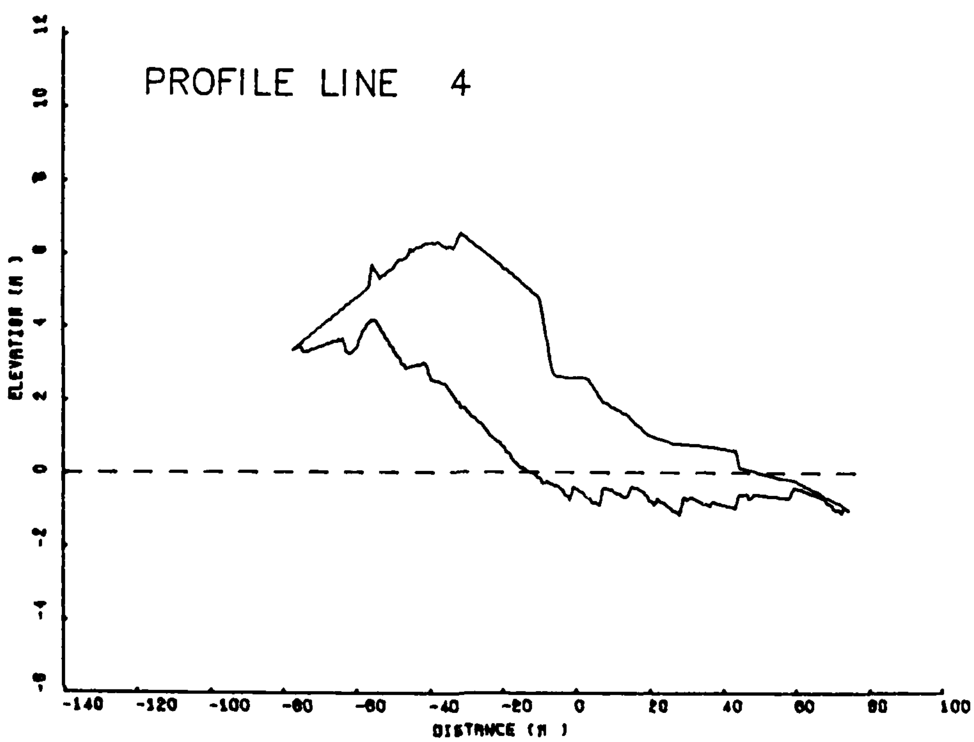
PROFILE ENVELOPES

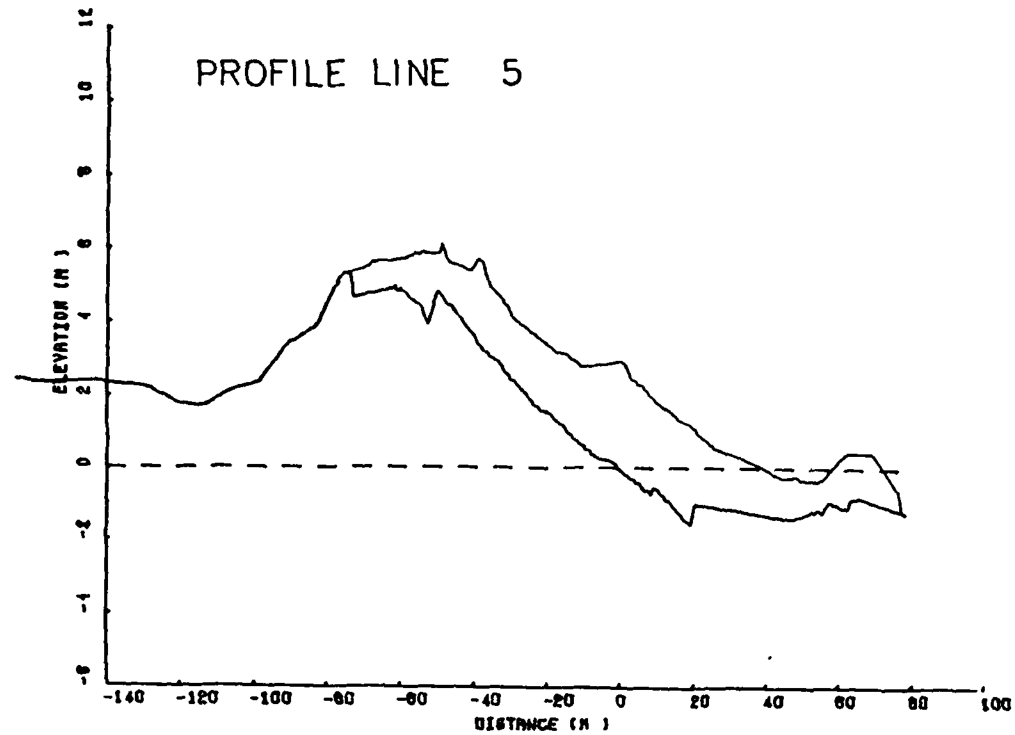
Horizontal distance in meters with zero at MSL intercept of first survey. The profile envelopes in this appendix show the maximum and minimum elevations measured along each profile line. The seaward ends of the profile surveys have been connected by the automatic plotter, but do not represent actual profile closure. Since these are envelopes, the plotted upper and lower bounds do not represent a profile that existed during any of the surveys.


PROFILE LINE 1
ELEVATION (M)
12
10
8
6
4
2
0
-2
-4
-6
-140
-120
-100
-80
-60
-40
-20
0
20
40
60
80
100
DISTANCE (M)


PROFILE LINE 2
ELEVATION (M)
12
10
8
6
4
2
0
-2
-4
-6
-140
-120
-100
-80
-60
-40
-20
0
20
40
60
80
100
DISTANCE (M)


PROFILE LINE 3
ELEVATION (M)
12
10
8
6
4
2
0
-2
-4
-6
-140
-120
-100
-80
-60
-40
-20
0
20
40
60
80
100
DISTANCE (M)


PROFILE LINE 4
ELEVATION (M)
12
10
8
6
4
2
0
-2
-4
-6
-140
-120
-100
-80
-60
-40
-20
0
20
40
60
80
100
DISTANCE (M)


PROFILE LINE 5
ELEVATION (M)
DISTANCE (M)
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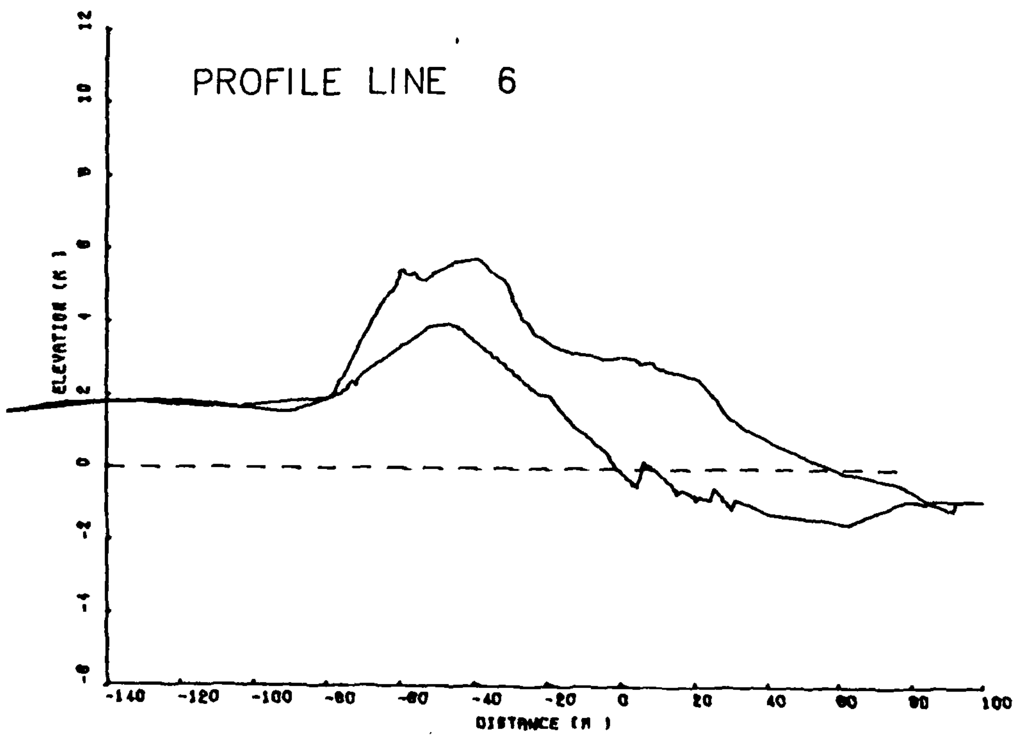
PROFILE LINE 6
ELEVATION (M)
DISTANCE (M)
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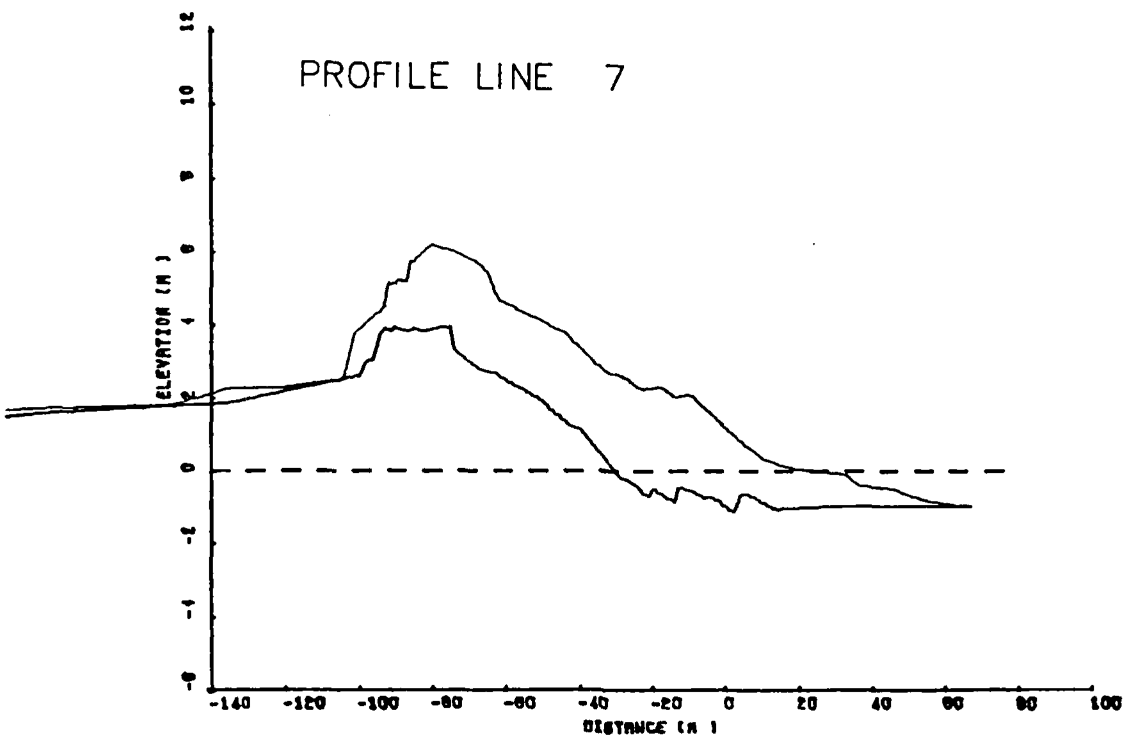
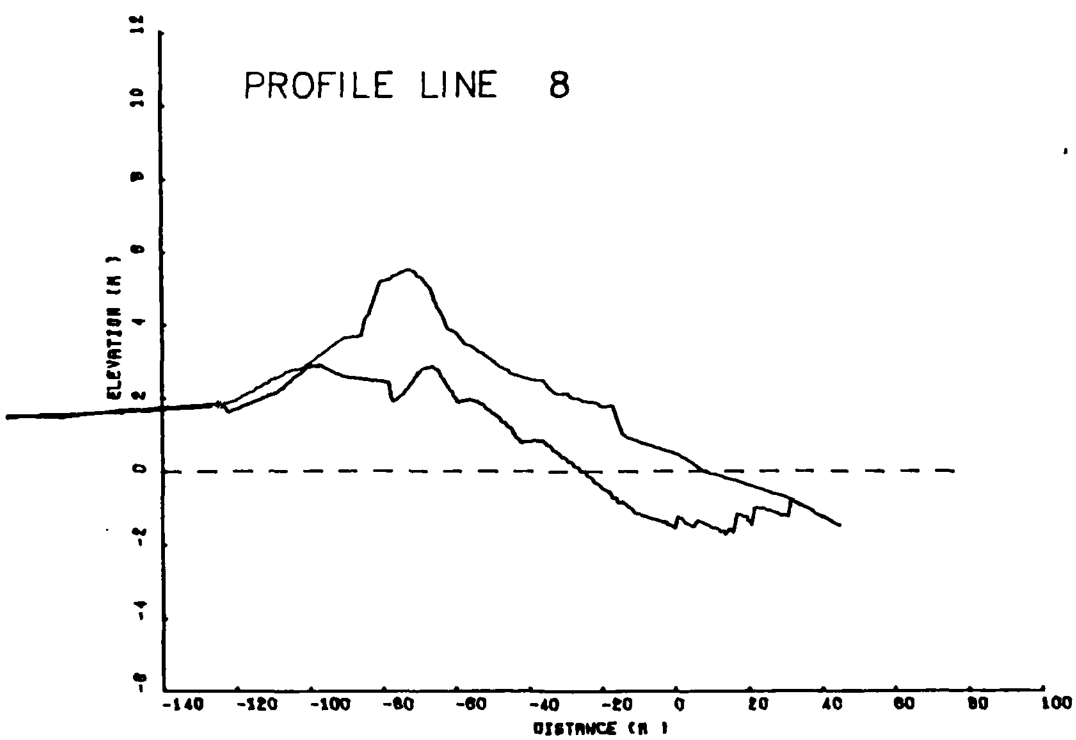
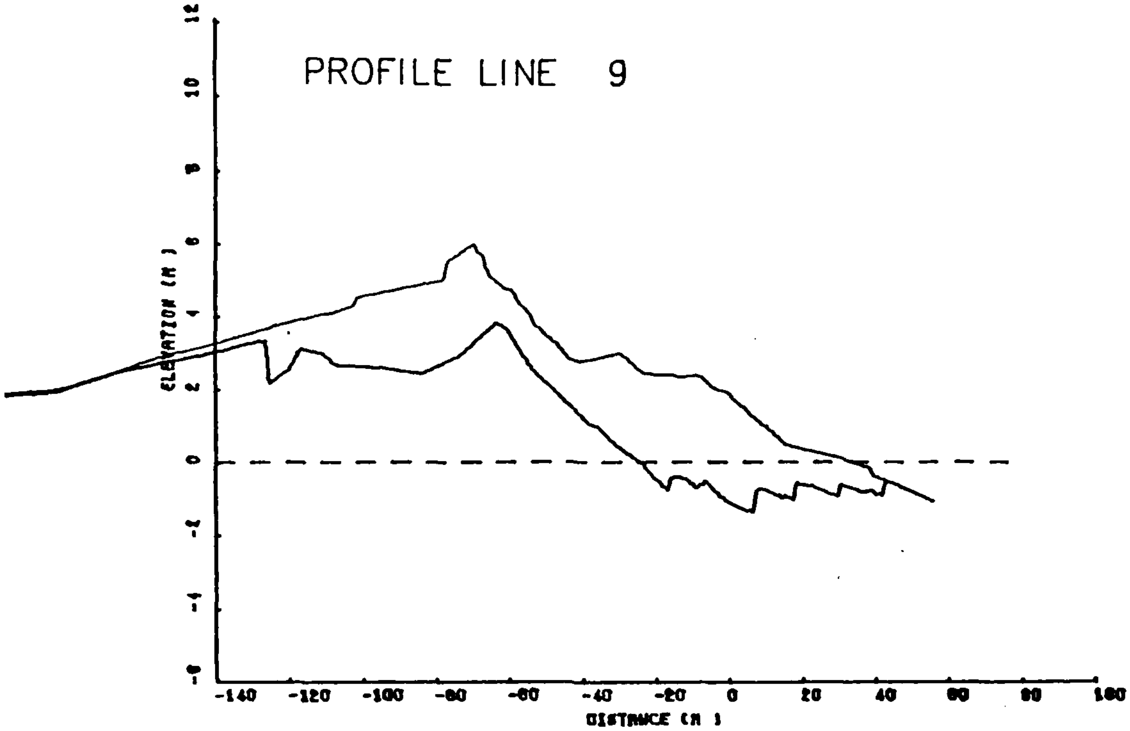
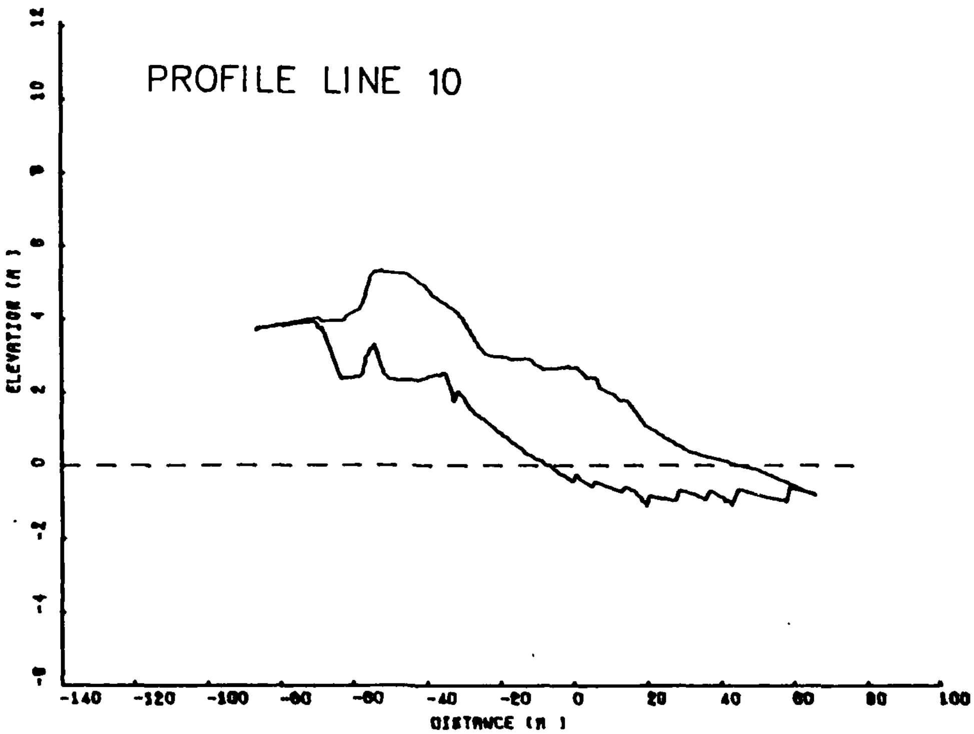
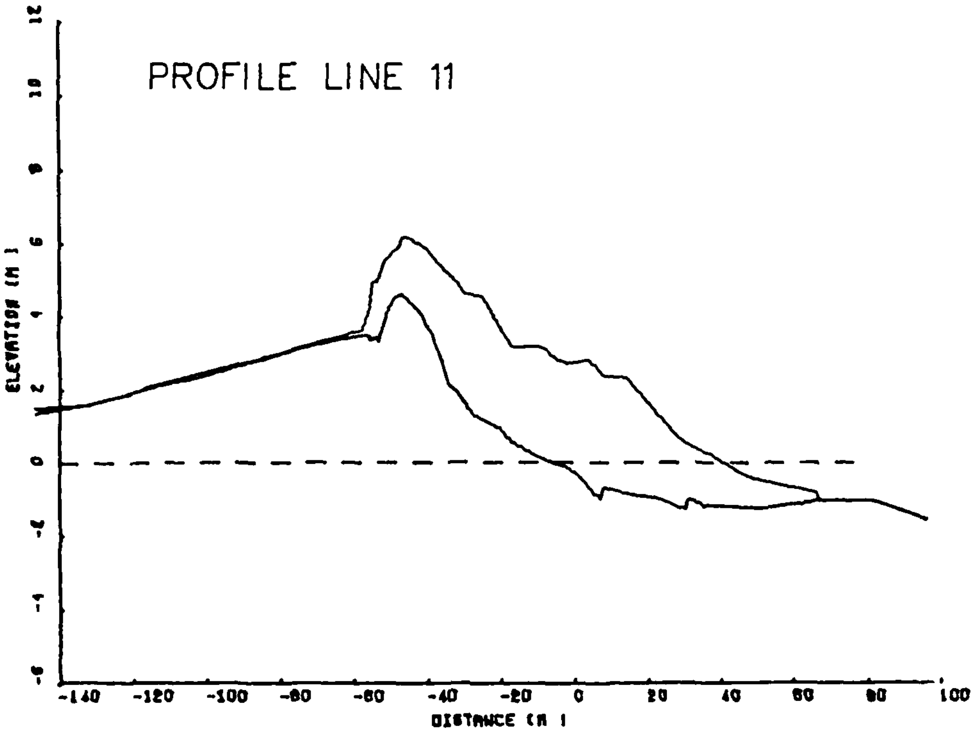

PROFILE LINE 7
ELEVATION (M)
DISTANCE (M)

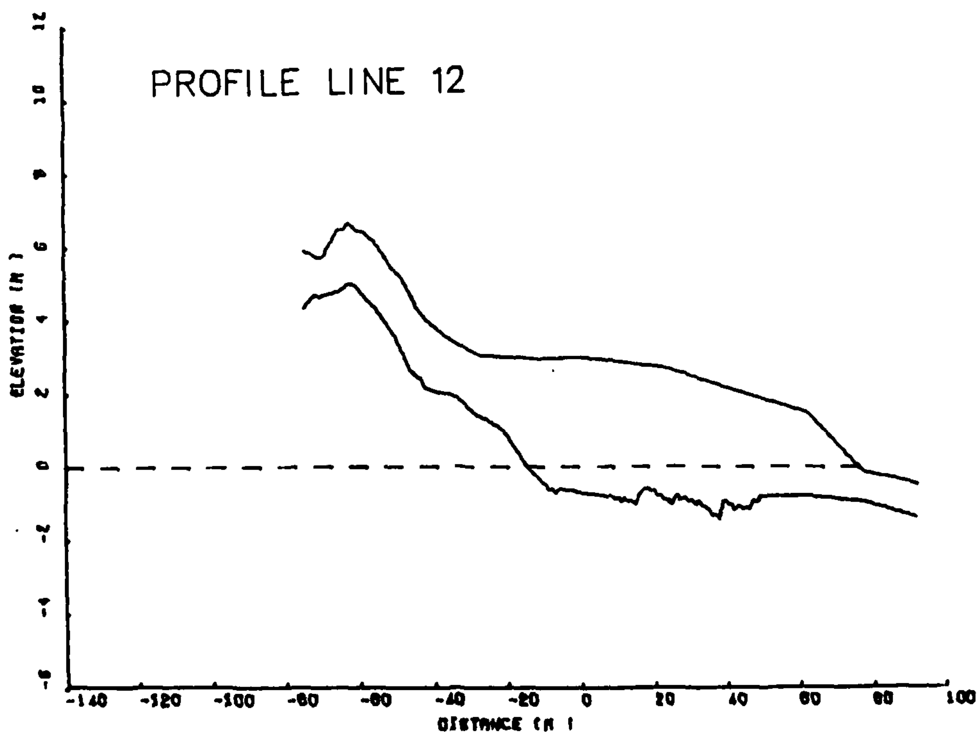

PROFILE LINE 8
ELEVATION (M)
DISTANCE (M)


PROFILE LINE 9
ELEVATION (M)
DISTANCE (M)
-140
-120
-100
-80
-60
-40
-20
0
20
40
60
80
100

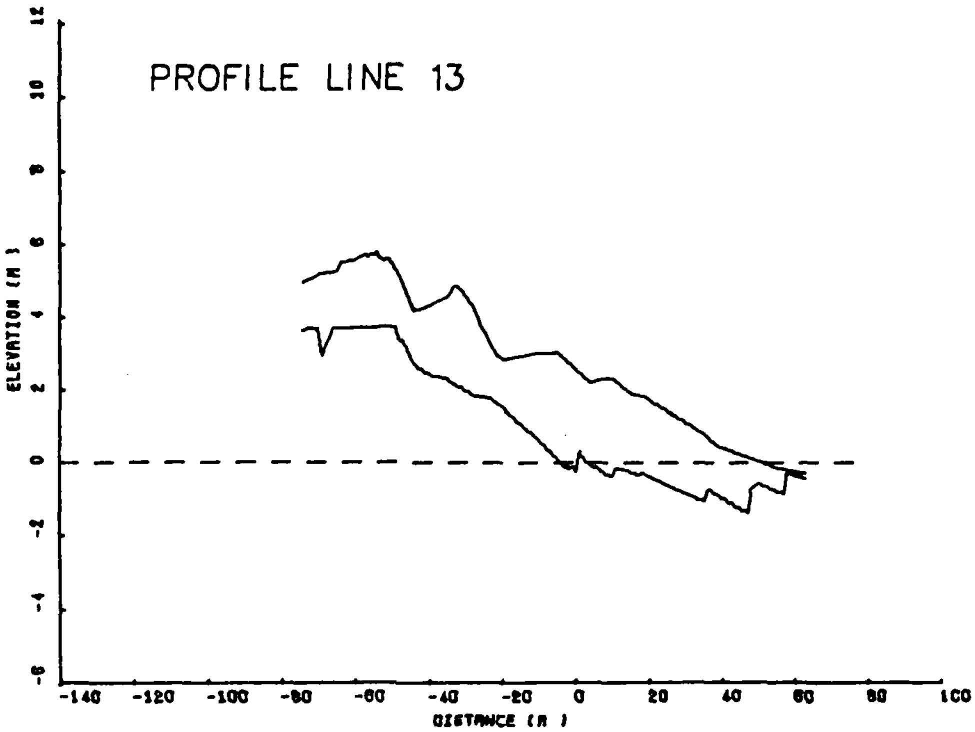

PROFILE LINE 10
ELEVATION (M)
DISTANCE (M)
-140
-120
-100
-80
-60
-40
-20
0
20
40
60
80
100

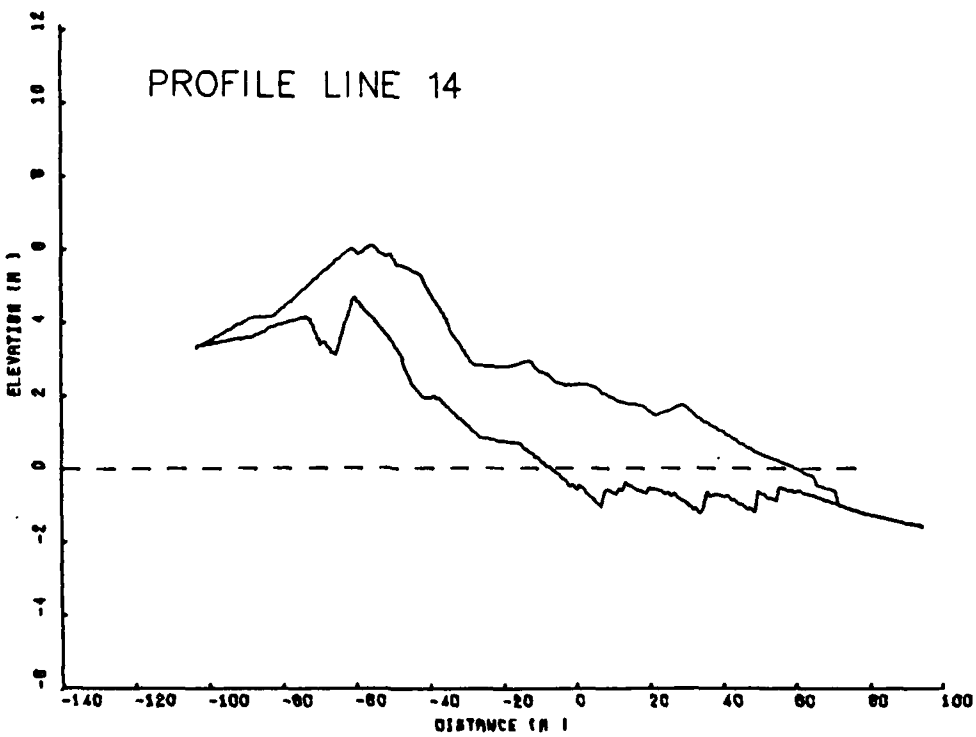


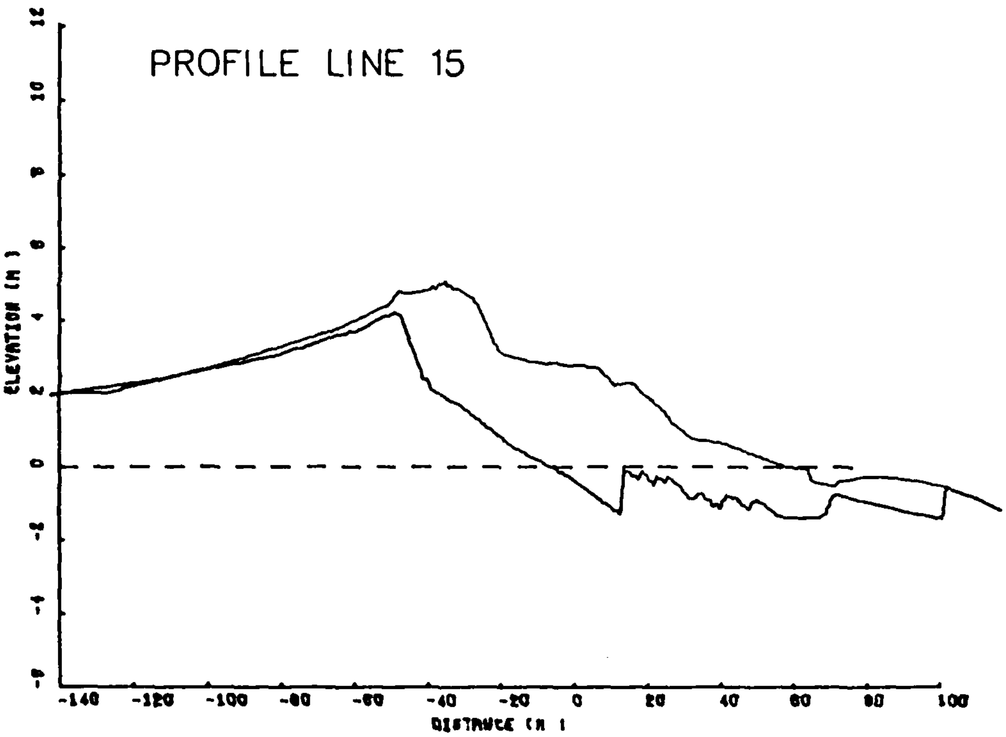
PROFILE LINE 11
ELEVATION (M)
DISTANCE (M)

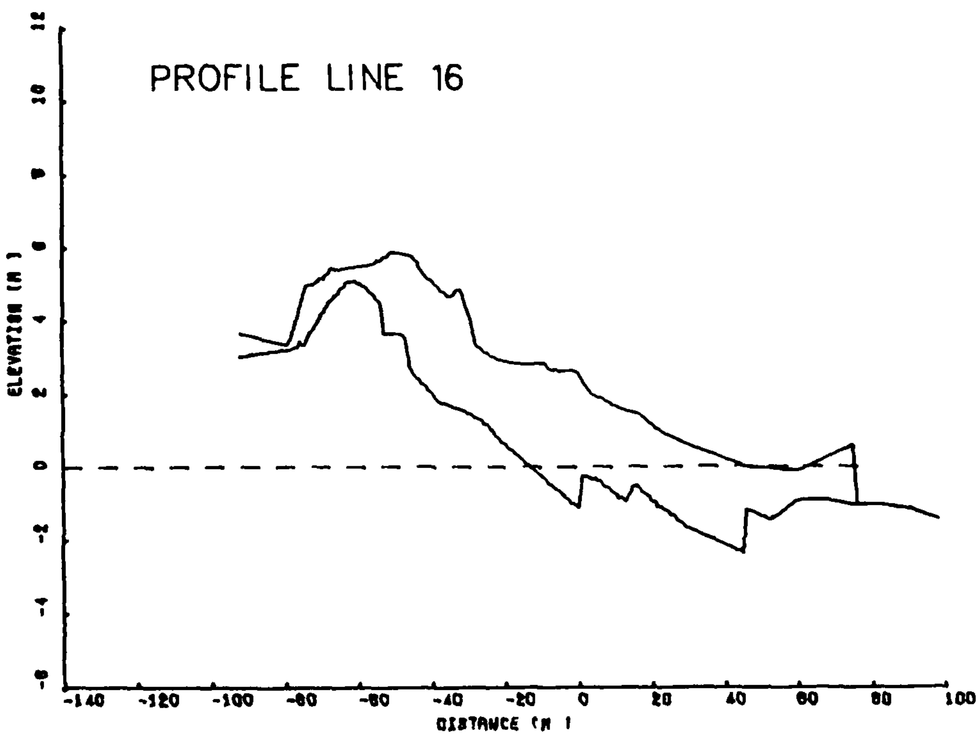


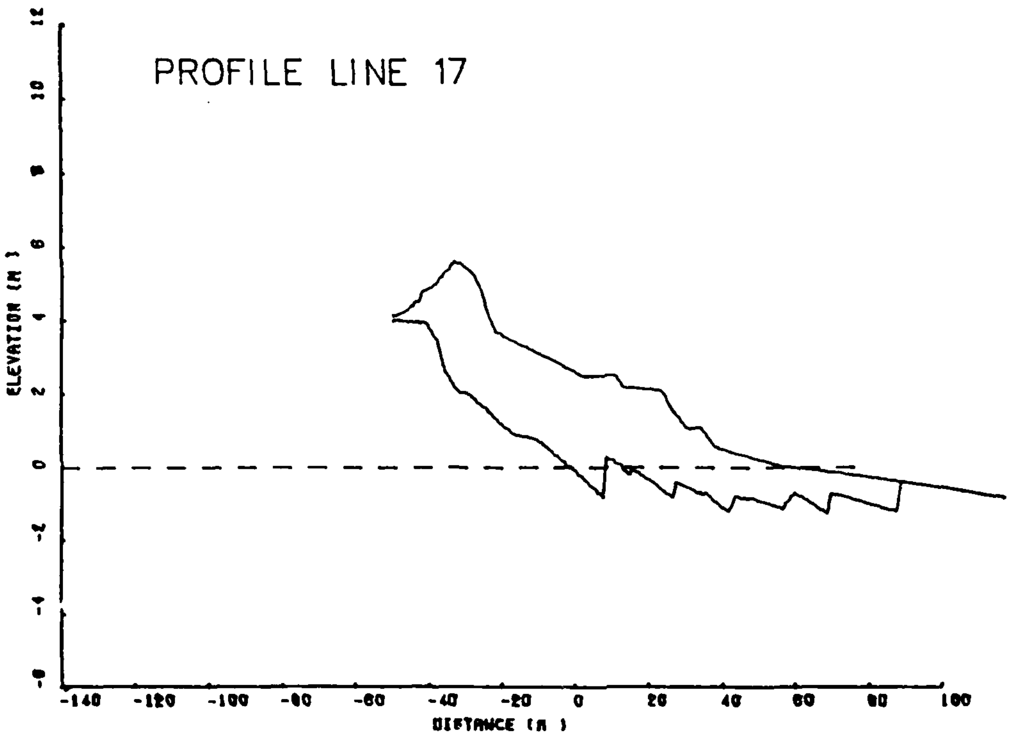
PROFILE LINE 12
ELEVATION (M)
DISTANCE (M)

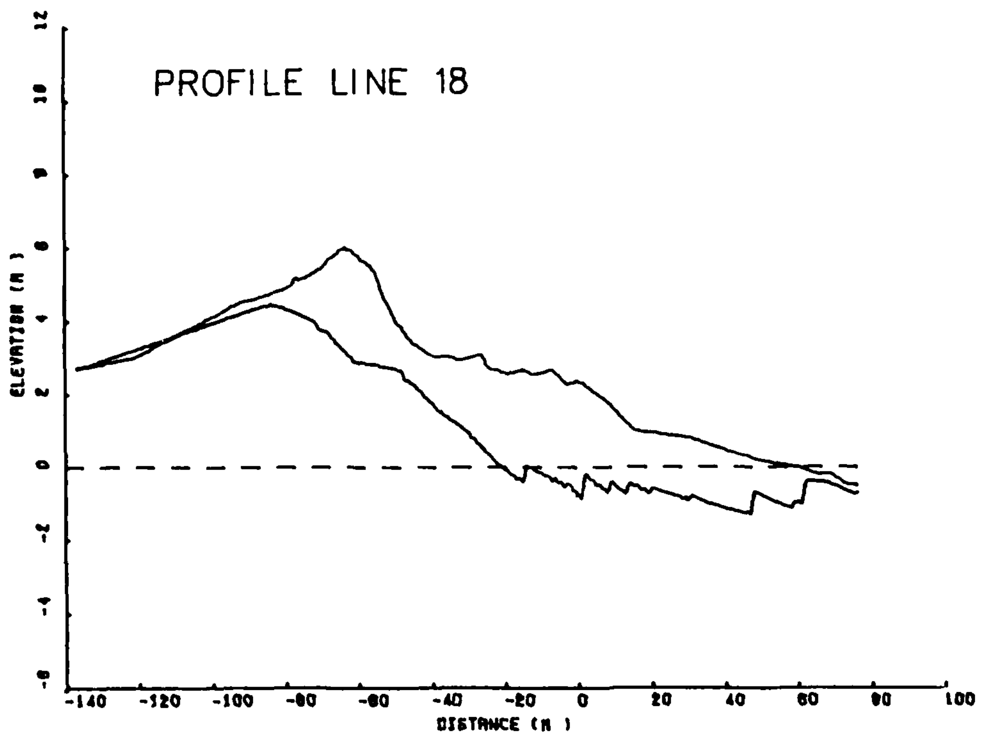

PROFILE LINE 13
ELEVATION (M)
-6
-4
-2
0
2
4
6
8
10
12
-140
-120
-100
-80
-60
-40
-20
0
20
40
60
80
100
DISTANCE (M)

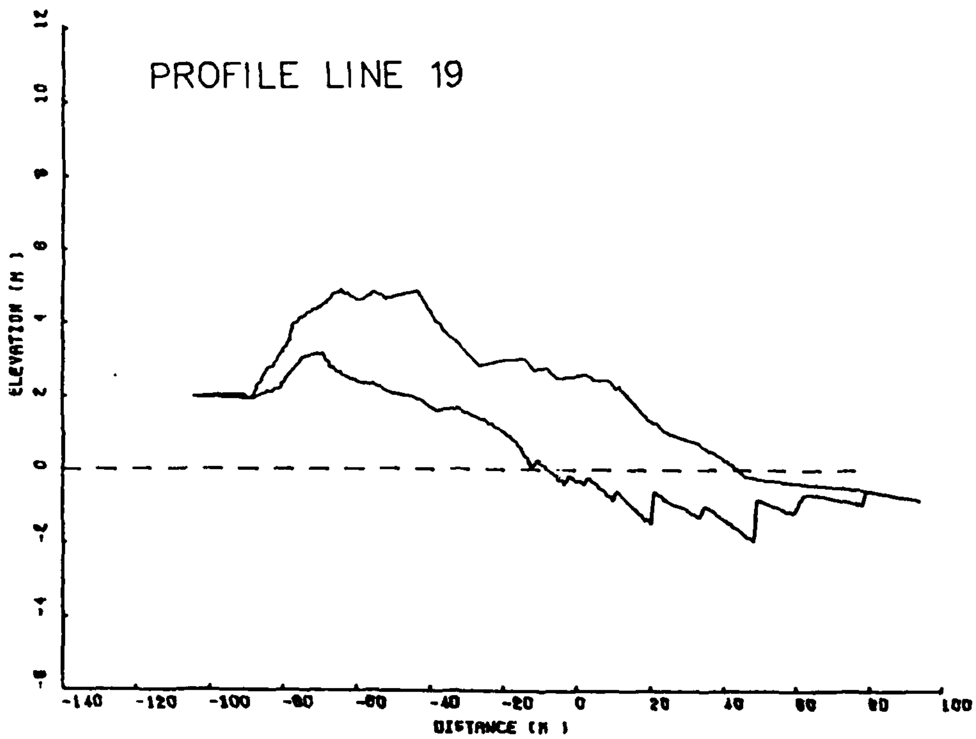

PROFILE LINE 14
ELEVATION (M)
-6
-4
-2
0
2
4
6
8
10
12
-140
-120
-100
-80
-60
-40
-20
0
20
40
60
80
100
DISTANCE (M)

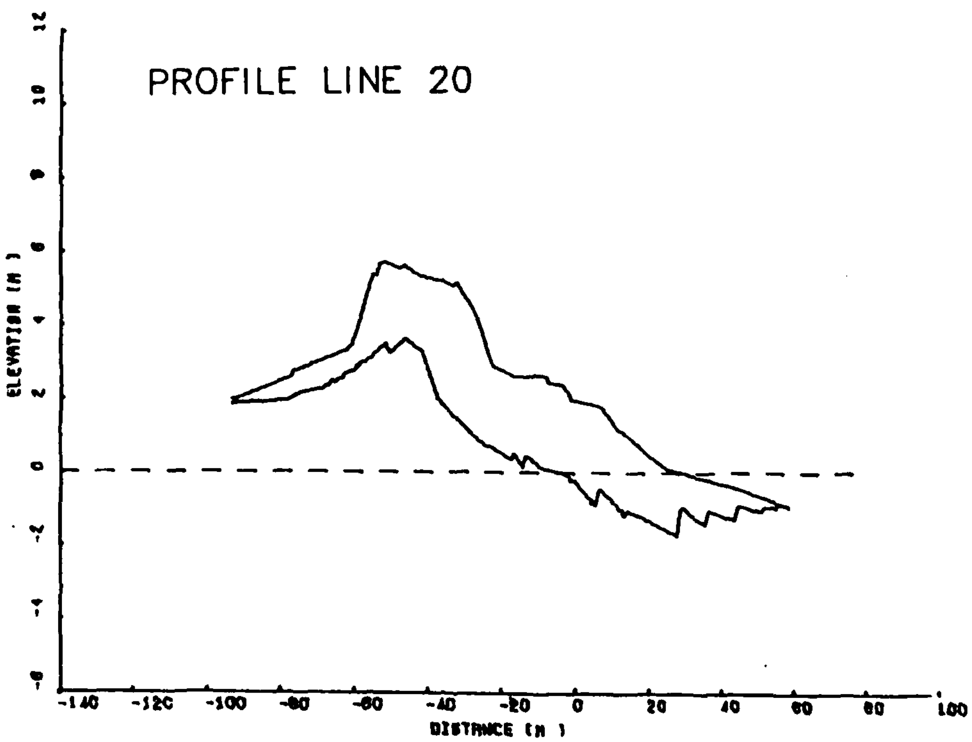

PROFILE LINE 15
ELEVATION (M)
DISTANCE (M)

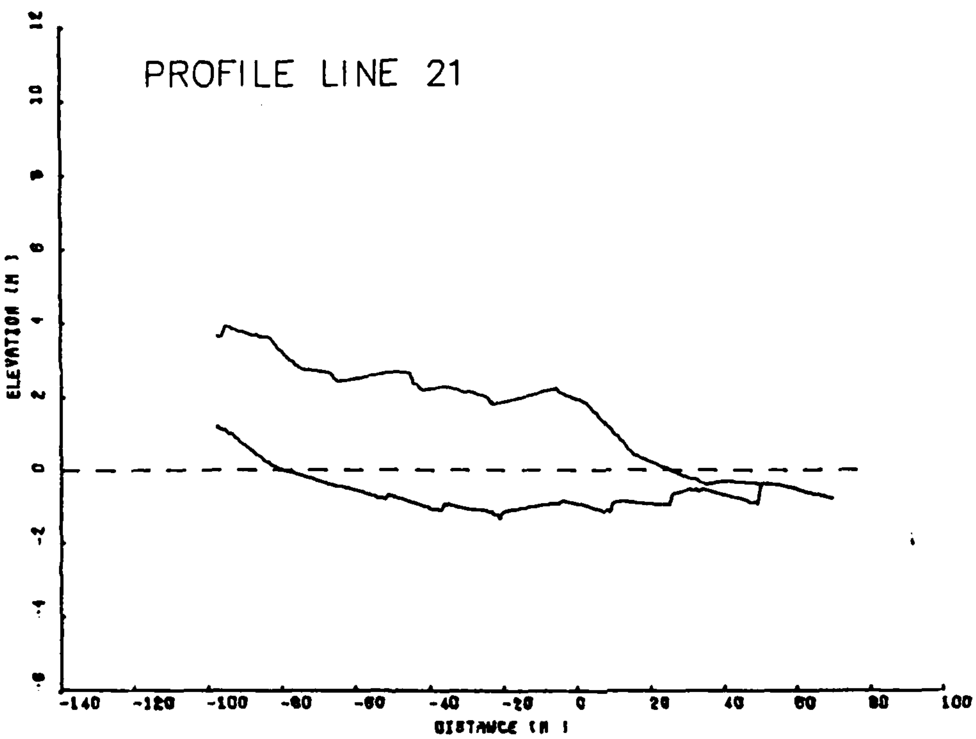

PROFILE LINE 16
ELEVATION (M)
DISTANCE (M)

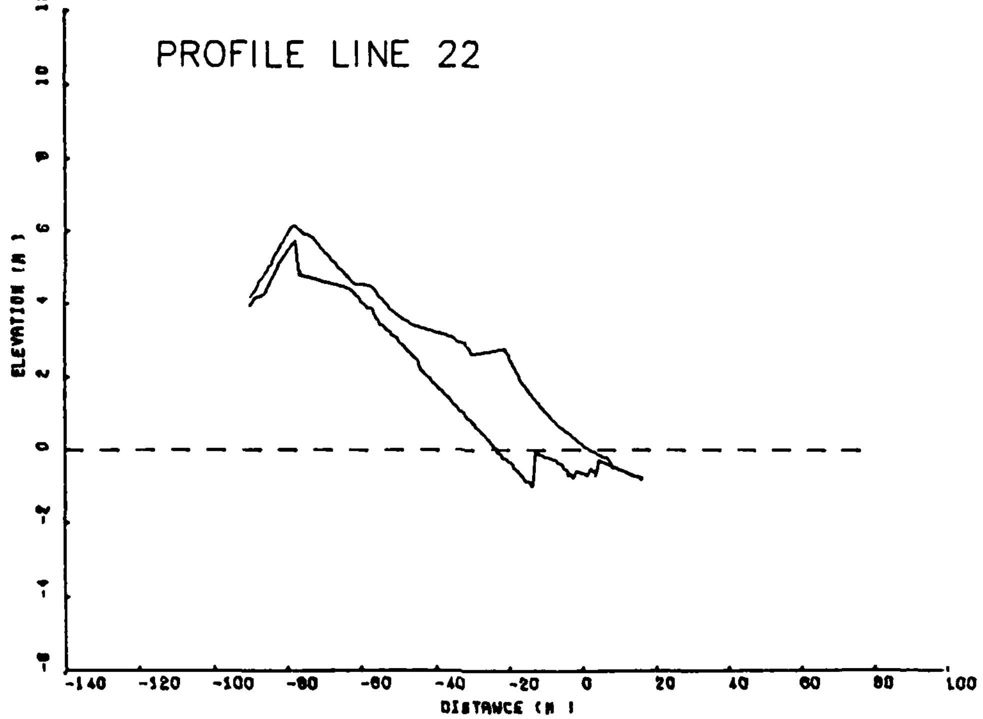

PROFILE LINE 17
ELEVATION (M)
DISTANCE (M)
-140
-120
-100
-80
-60
-40
-20
0
20
40
60
80
100

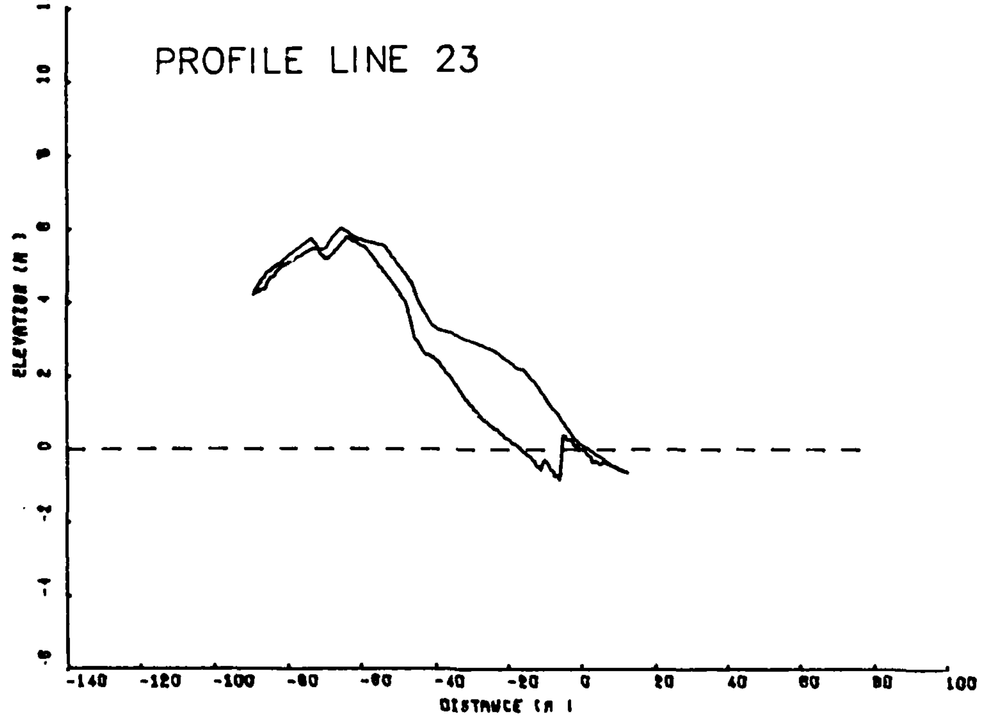

PROFILE LINE 18
ELEVATION (M)
DISTANCE (M)
-140
-120
-100
-80
-60
-40
-20
0
20
40
60
80
100

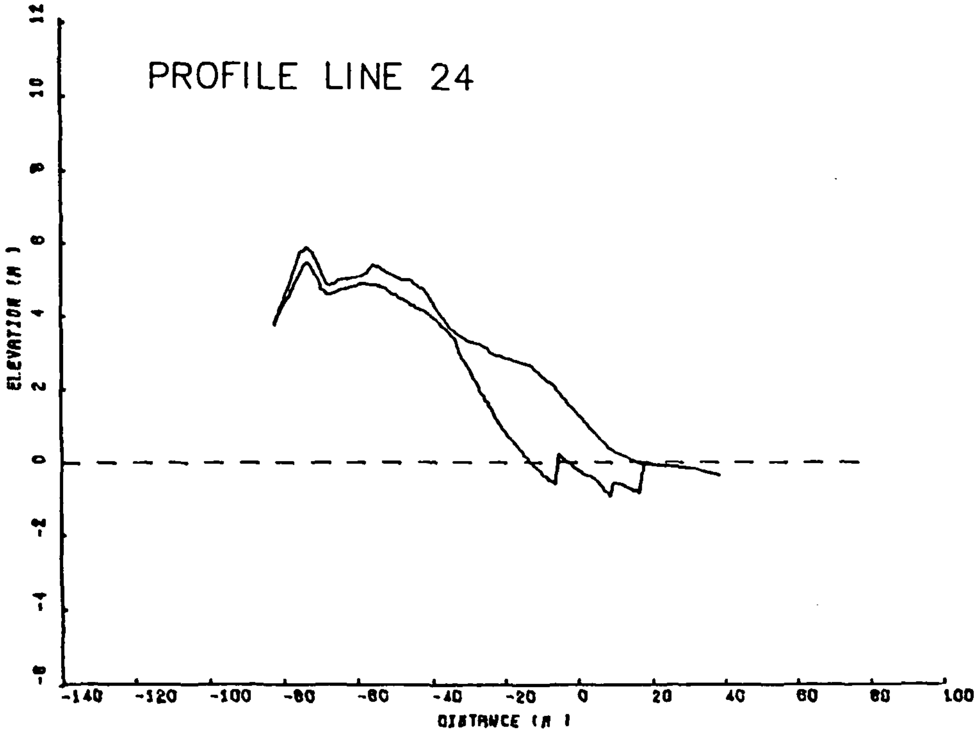

PROFILE LINE 19
ELEVATION (M)
DISTANCE (M)


PROFILE LINE 20
ELEVATION (M)
DISTANCE (M)


PROFILE LINE 21
ELEVATION (M)
12
10
8
6
4
2
0
-2
-4
-6
-140 -120 -100 -80 -60 -40 -20 0 20 40 60 80 100
DISTANCE (M)


PROFILE LINE 22
ELEVATION (M)
DISTANCE (M)


PROFILE LINE 23
ELEVATION (M)
DISTANCE (M)


PROFILE LINE 24
ELEVATION (M)
DISTANCE (M)
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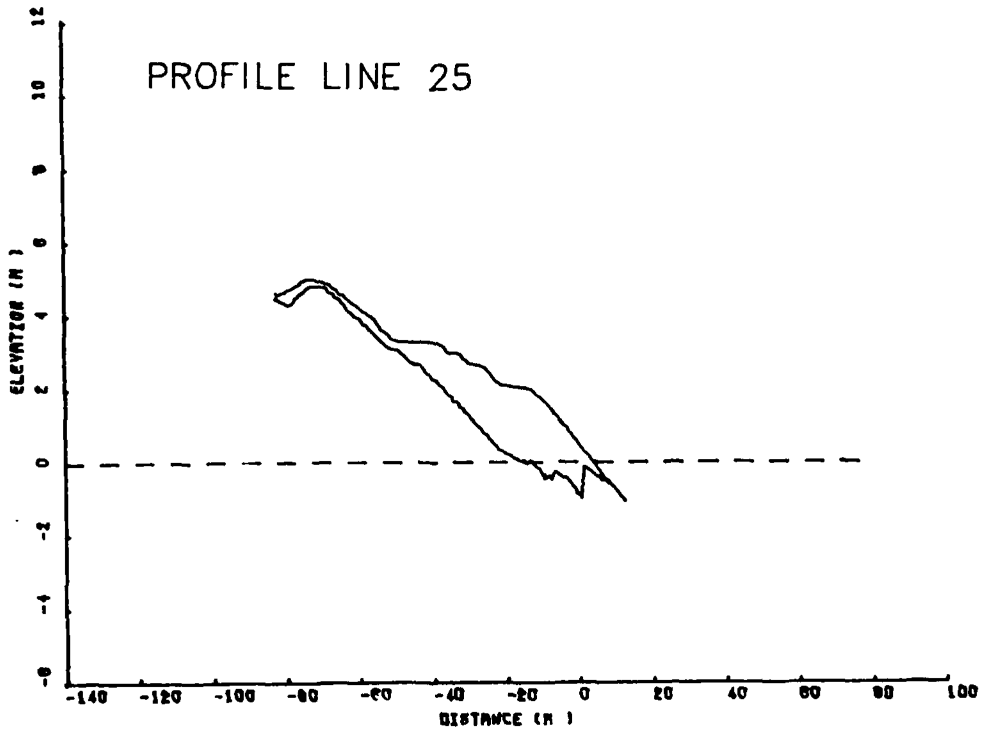
12 10 8 6 4 2 0 -2 -4 -6


PROFILE LINE 25
ELEVATION (M)
DISTANCE (M)
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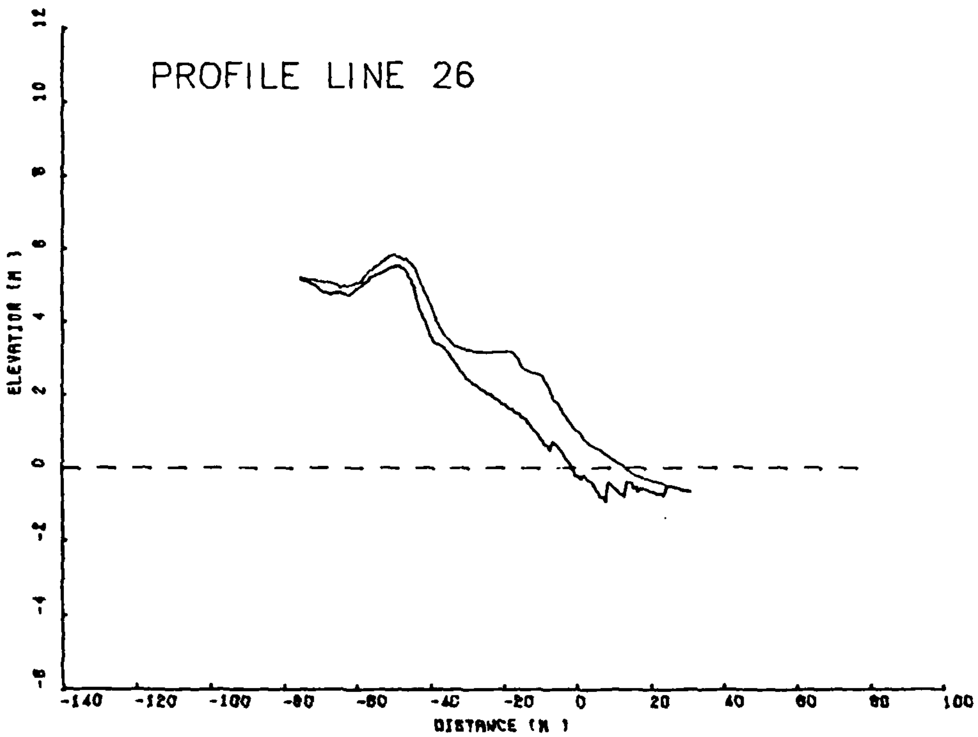
12 10 8 6 4 2 0 -2 -4 -6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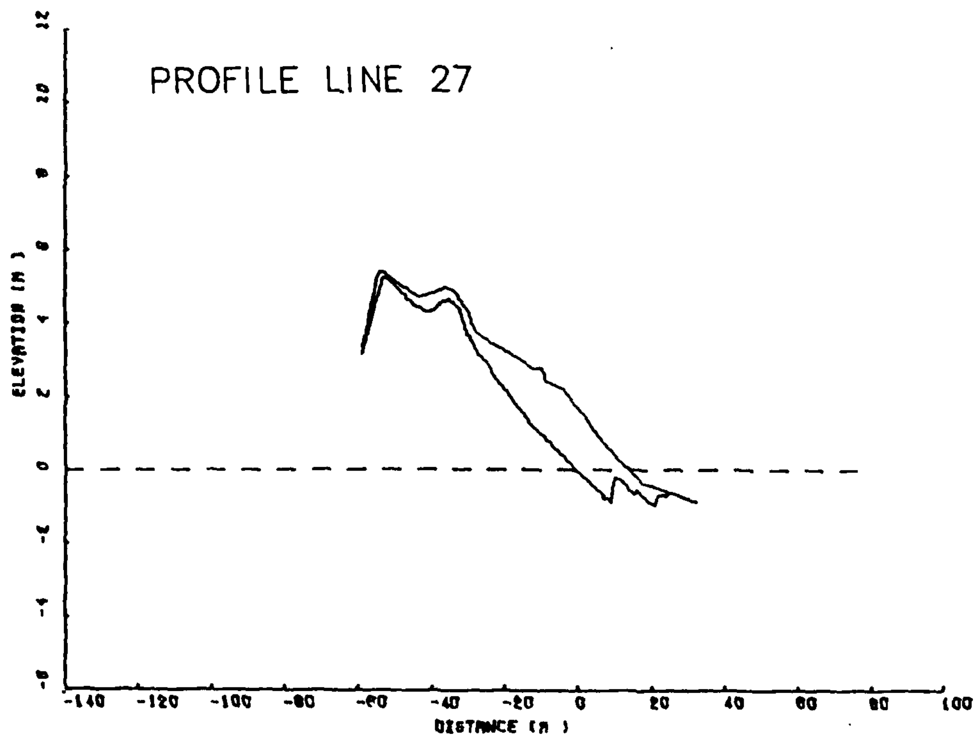
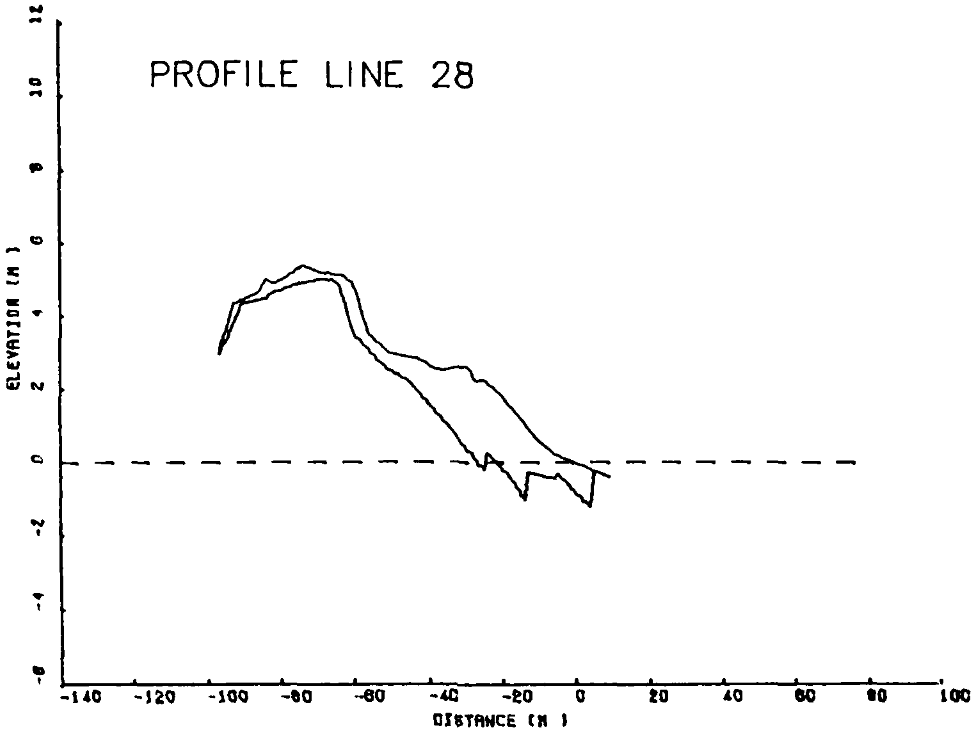
ELEVATION (M)
DISTANCE (M)


PROFILE LINE 27
ELEVATION (M)
DISTANCE (M)


PROFILE LINE 28
ELEVATION (M)
DISTANCE (M)
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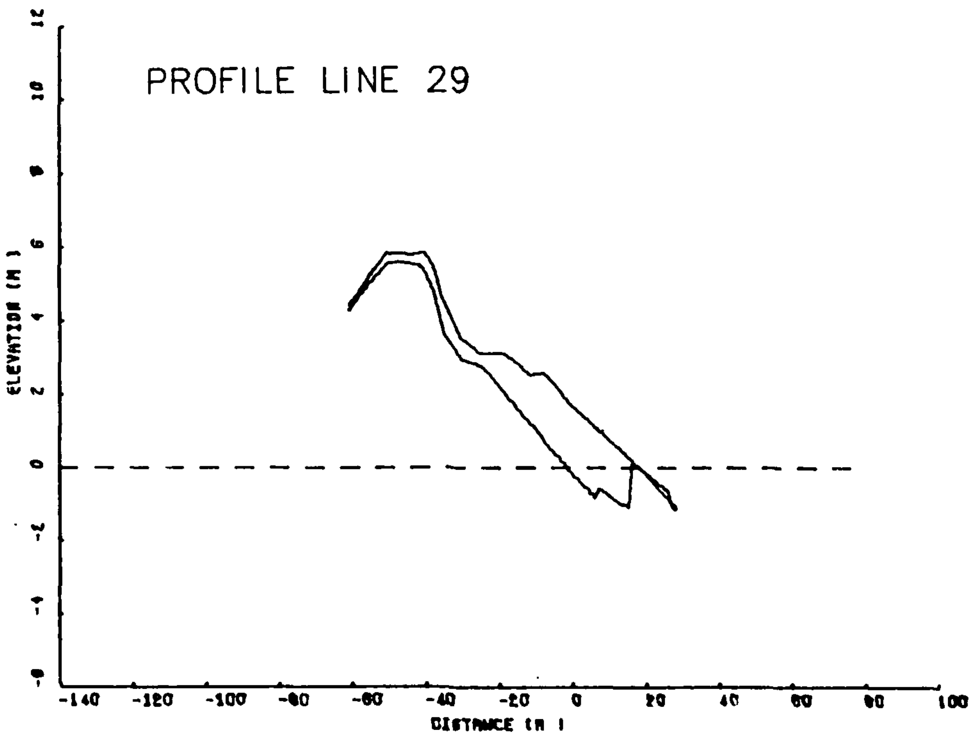
PROFILE LINE 29
ELEVATION (M)
DISTANCE (M)
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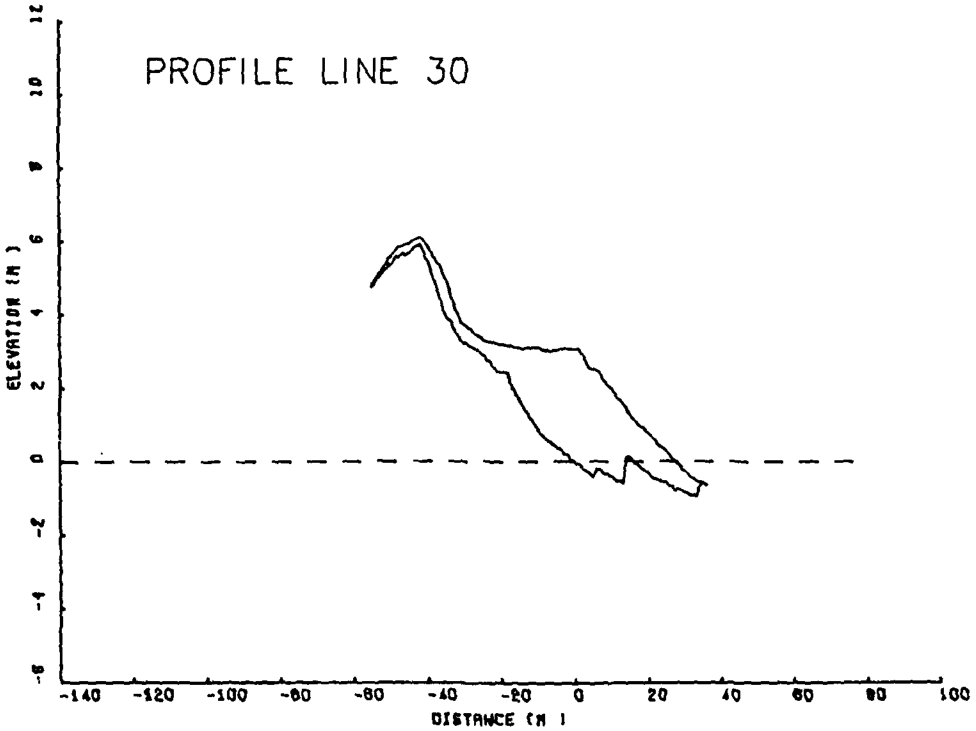
PROFILE LINE 30
ELEVATION (M)
DISTANCE (M)
-140
-120
-100
-80
-60
-40
-20
0
20
40
60
80
100
12
10
8
6
4
2
0
-2
-4
-6

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BEACH CHANGES AT LONG BEACH ISLAND, NEW JERSEY, 1962-73.(U)
OCT 80 M C MILLER, D G AUBREY, J KARPEN DACW72-79-C-0020
UNCLASSIFIED CERC-MR-80-9 NL

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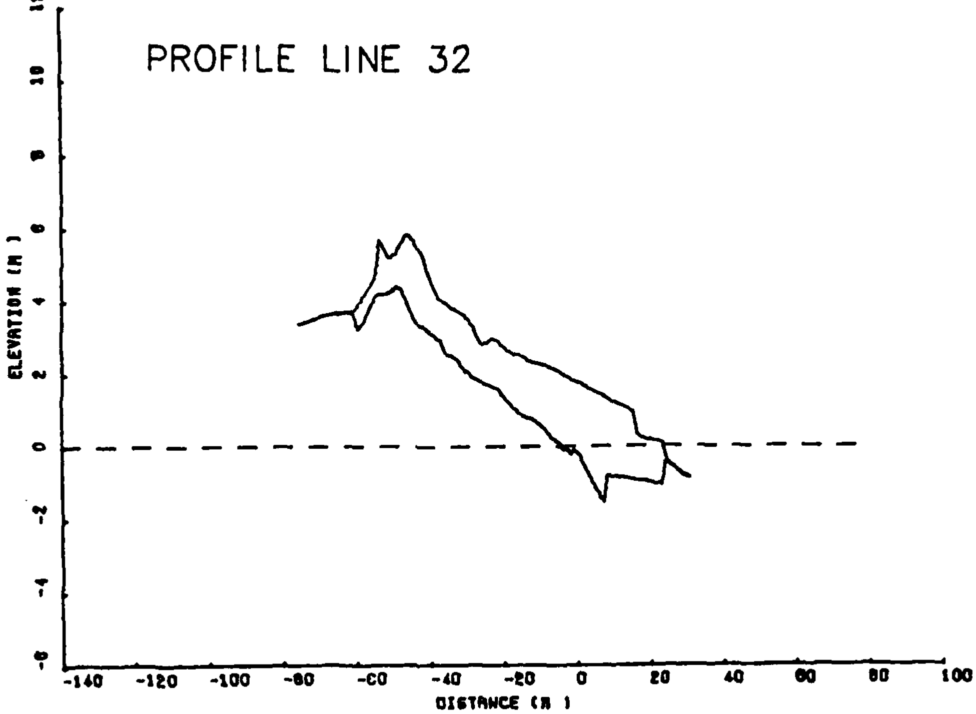
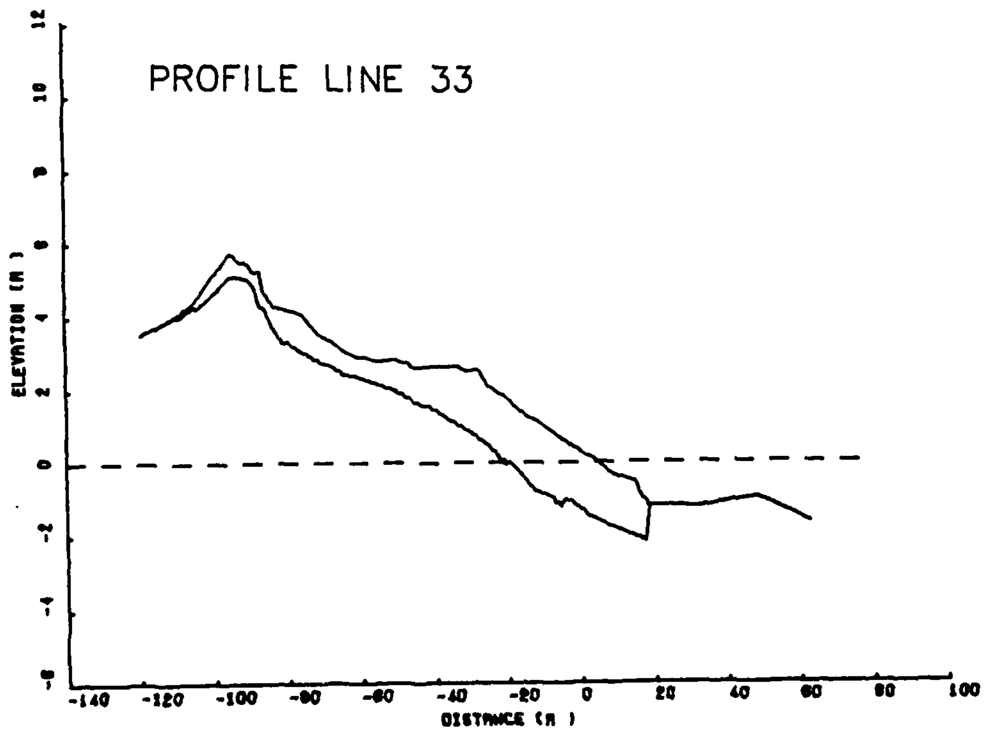

PROFILE LINE 32
ELEVATION (M)
DISTANCE (M)


PROFILE LINE 33
ELEVATION (M)
DISTANCE (M)

Miller, Martin C.

Beach changes at Long Beach Island, New Jersey, 1962-73 / by Martin C. Miller, David G. Aubrey...[et al.]. -- Fort Belvoir, Va. : U.S. Coastal Engineering Research Center ; Springfield, Va. : available from National Technical Information Service, 1980.

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